

## ILLUSTRATED GLOSSARY OF BOTANICAL TERMS

### FLORA OF THE CHICAGO REGION

#### A Floristic and Ecological Synthesis

(Wilhelm & Rericha, 2017)

Published by the Indiana Academy of Science (IAS)

September 20, 2020

The glossary for the 4<sup>th</sup> edition of *Plants of the Chicago Region* (Swink & Wilhelm, 1994) had nearly 200 individual drawings on 12 intercalated plates. These illustrations were popular and a useful feature. However, as the page count in the follow-up book, *Flora of the Chicago Region* (FCR), needed to be reduced, the decision was made not to include an illustrated glossary. In an attempt to make FCR a more useful educational tool, it was recently decided to publish an adjunct illustrated glossary and to post it on the website maintained by the Conservation Research Institute (CRI). The new glossary has been expanded substantially, providing double the number of individual illustrations and terms.

The glossary is available for use without charge. We merely ask that all use of these illustrations and associated glossary be limited to educational and non-commercial activities, and that the IAS, FCR and CRI each be credited in all use.

#### THE ARTISTS:

**Paul Nelson** penned the drawings used in the 4<sup>th</sup> edition of PCR.

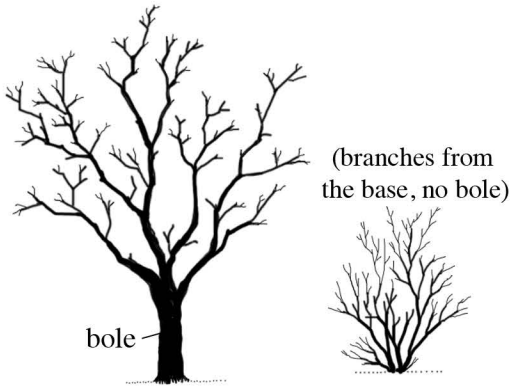
**Mary Marguerite Lowther** created the line art used for each genus in FCR.

**Kathleen Marie Garness** produced the illustrations used for the addended FCR glossary.

We applaud their talent.

**EDITOR'S NOTE:** The senior author is a master key writer—the best I know. His keys are clean and precise. Anyone truly interested in learning plants (i.e., distinguishing species) will encounter and at some point will need to know how to use a dichotomous key, which will require a familiarity with botanical terminology. In furtherance of this goal, we present this enhanced tool for your use.

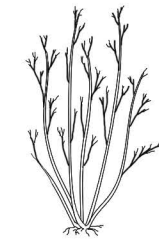
# PLATE 1: STEM AND ROOT TYPES



TREE

SHRUB

## WOODY PLANTS

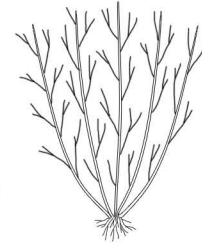


ASCENDING



DECUMBENT

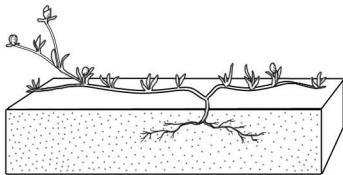
## PERENNIAL PLANTS



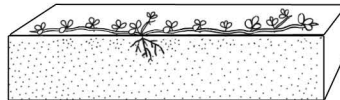
CESPITOSE



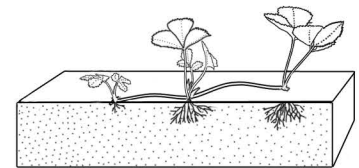
SIMPLE  
(ERECT)



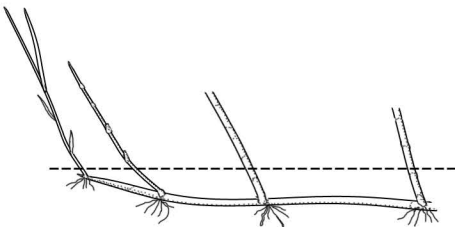
PROCUMBENT



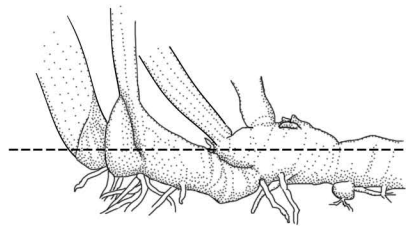
REPENT



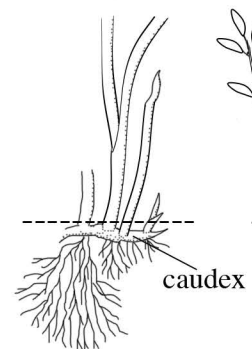
STOLONIFEROUS  
(SARMENTOSE)



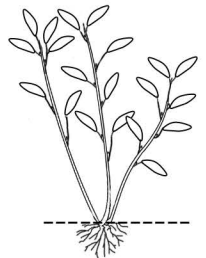
STOLONIFEROUS RHIZOME



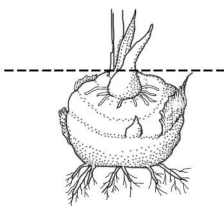
RHIZOME



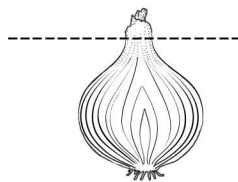
FIBROUS-  
ROOTED  
PERENNIAL



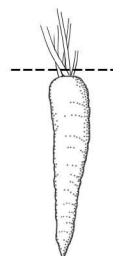
FIBROUS-  
ROOTED  
ANNUAL



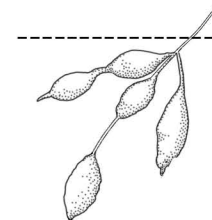
CORM



BULB

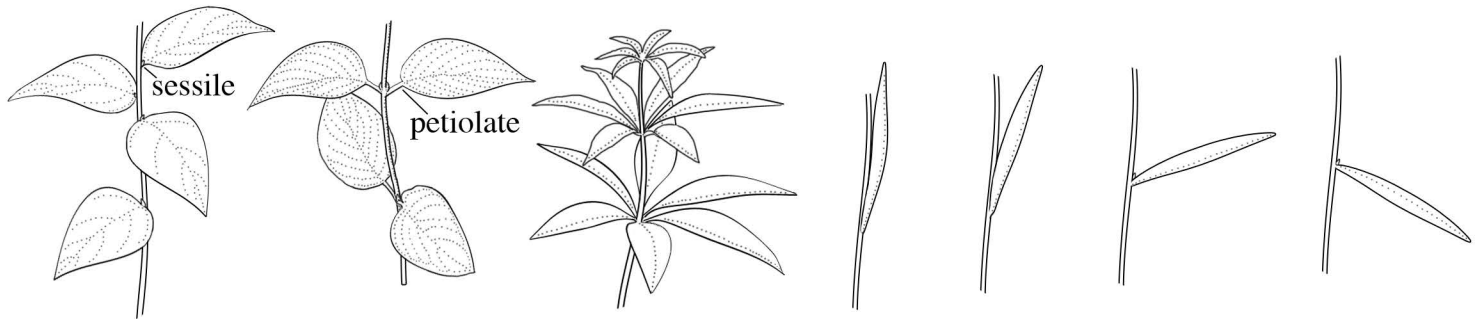


TAPROOT



TUBERS

## PLATE 2: LEAF ARRANGEMENTS AND TYPES



ALTERNATE

OPPOSITE

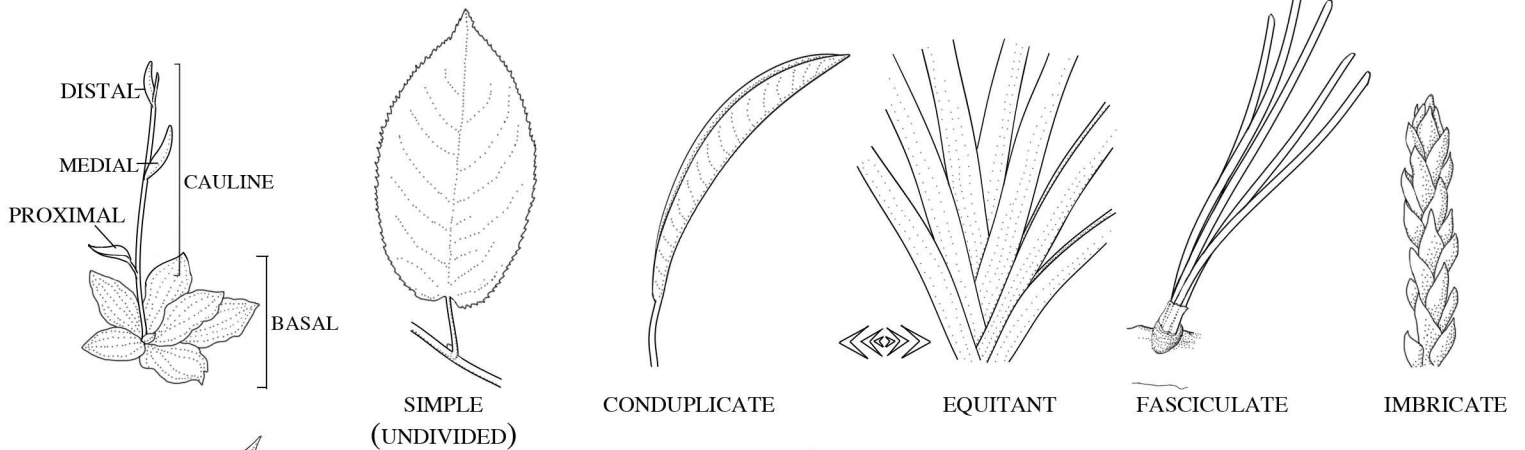
WHORLED

APPRESSED  
(ADPRESSED)

ASCENDING

DIVARICATE  
(DIVERGENT)

DEFLEXED



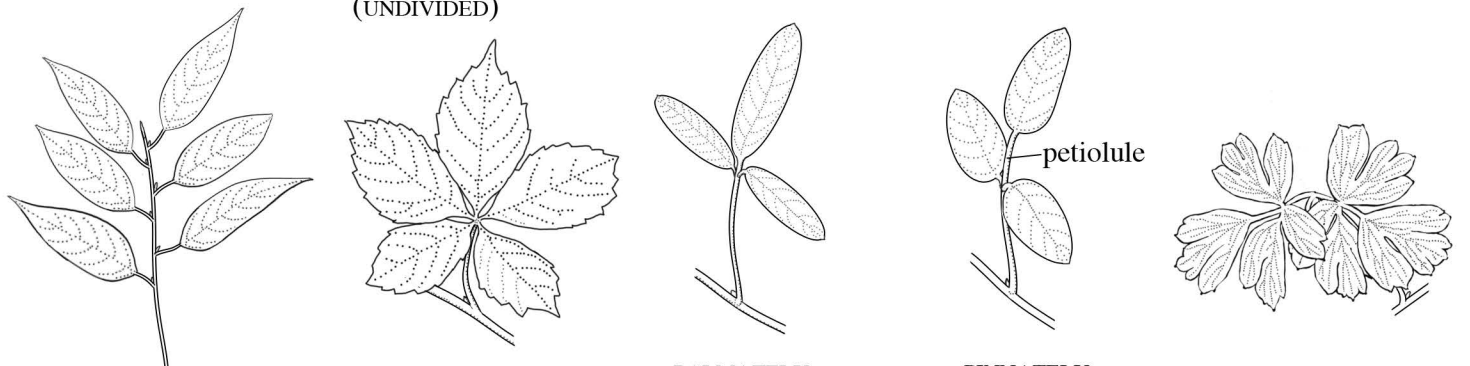
SIMPLE  
(UNDIVIDED)

CONDUPPLICATE

EQUITANT

FASCICULATE

IMBRICATE



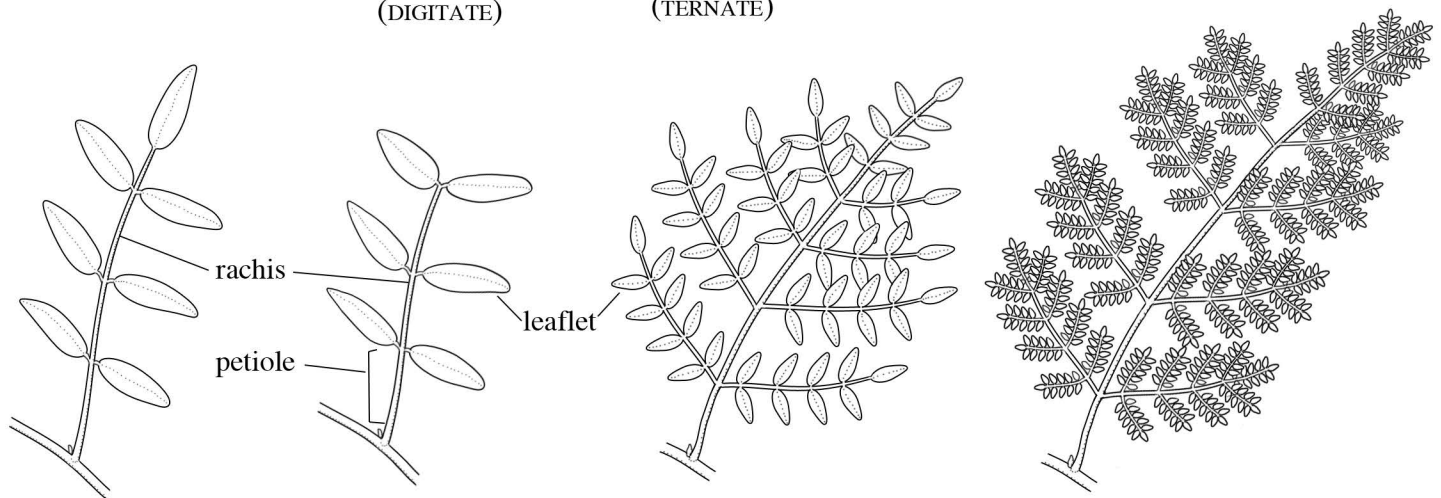
DISTICHOUS

PALMATELY  
COMPOUND  
(DIGITATE)

PALMATELY  
TRIFOLIOLATE  
(TERNATE)

PINNATELY  
TRIFOLIOLATE

BITERNATE



ODD-PINNATE

EVEN-PINNATE

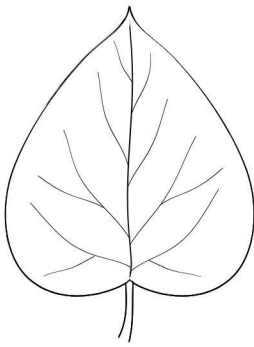
BIPINNATE

TRIPINNATE

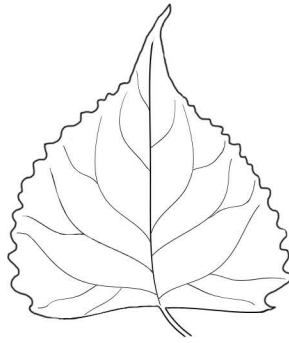
# PLATE 3 - LEAF SHAPES



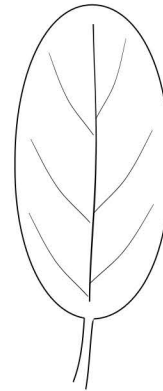
ACICULAR



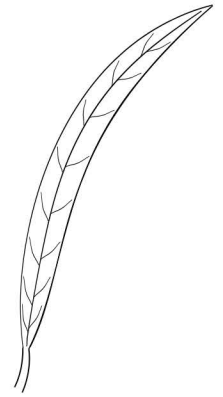
CORDATE



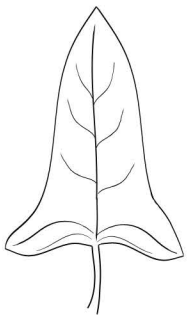
DELTATE



ELLIPTIC



FALCATE



HASTATE



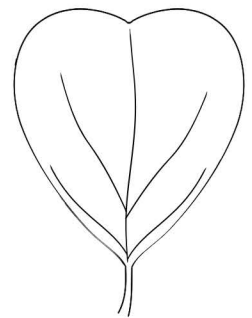
LANCEOLATE



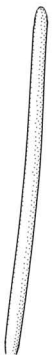
LINEAR



LYRATE



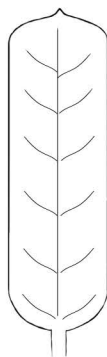
OBCORDATE



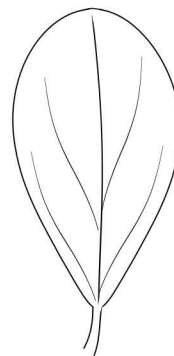
TERETE



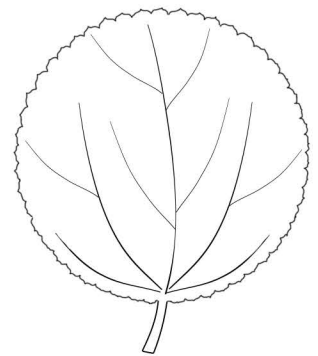
OBLANCEOLATE



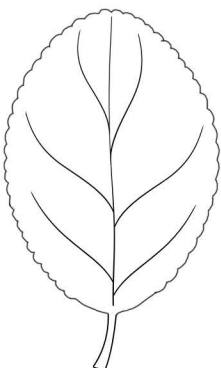
OBLONG



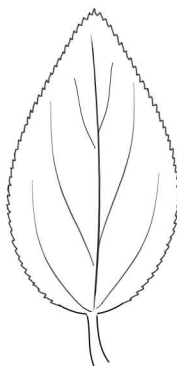
OBOVATE



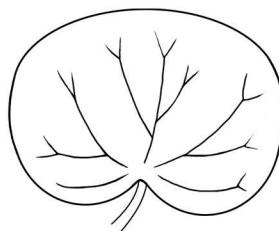
ORBICULAR



OVAL



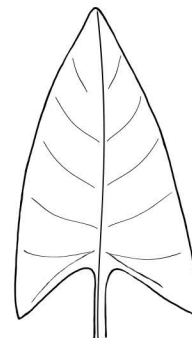
OVATE



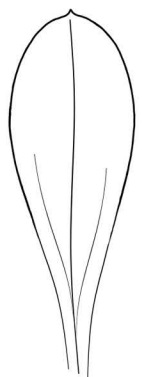
RENIFORM



RUNCINATE

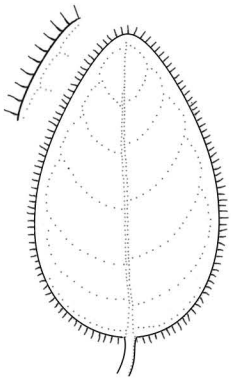


SAGITTATE

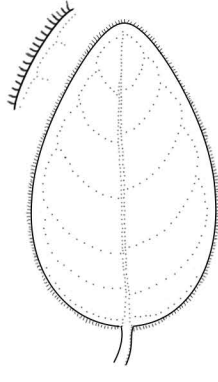


SPATULATE

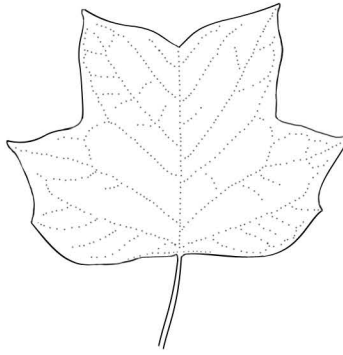
# PLATE 4: LEAF MARGINS



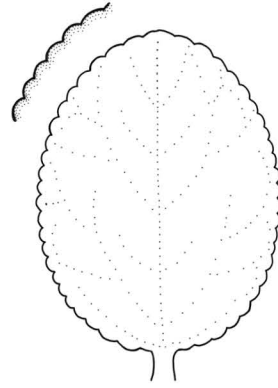
CILIATE



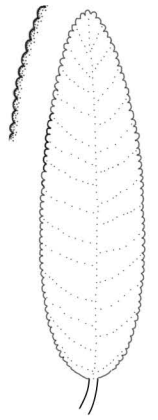
CILIOLATE



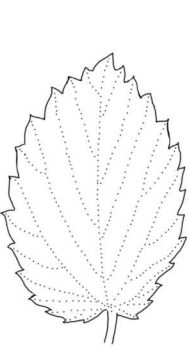
CLEFT



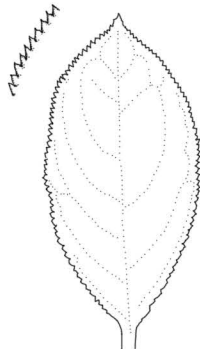
CRENATE



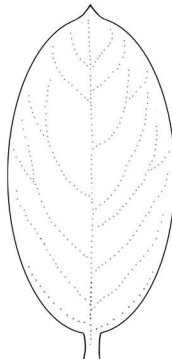
CRENULATE



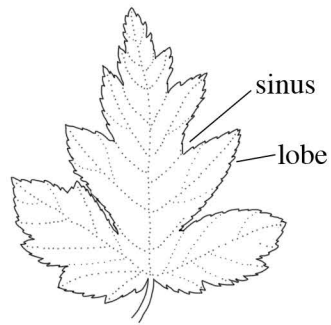
DENTATE



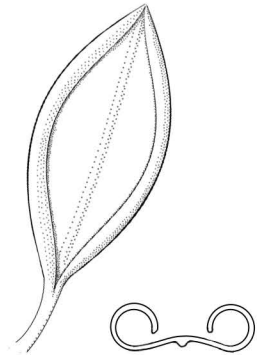
DENTICULATE



ENTIRE



INCISED



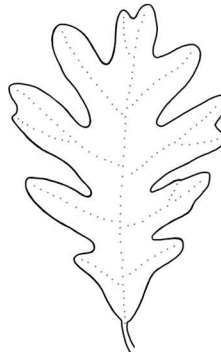
INVOLUTE



LACERATE  
(EROSE)



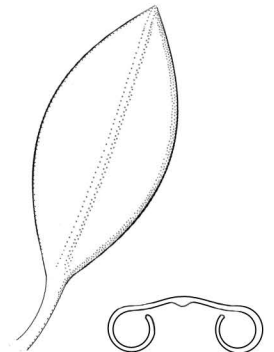
LACINATE



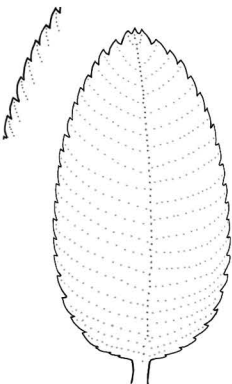
LOBED



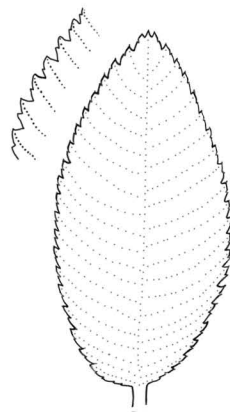
PINNATIFID



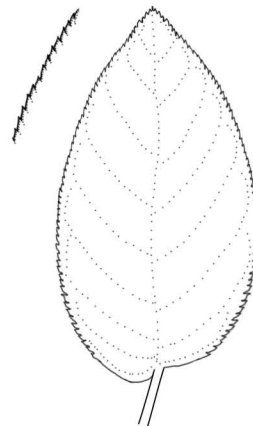
REVOLUTE  
(CONVOLUTE)



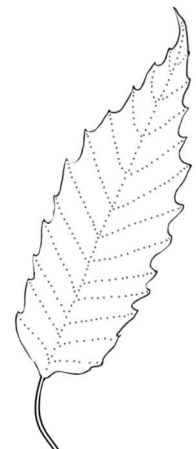
SERRATE



DOUBLY SERRATE



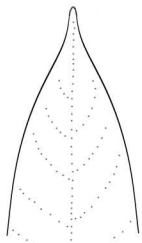
SERRULATE



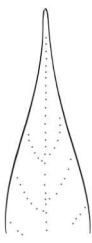
SINUATE

# PLATE 5: LEAF APICES, VENATIONS, AND BASES

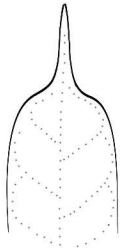
## APICES



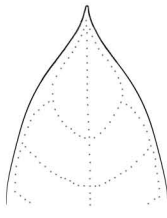
BROADLY



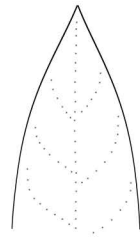
NARROWLY  
ACUMINATE



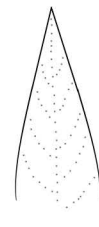
ABRUPTLY



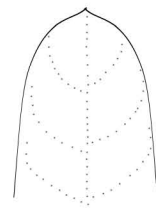
SHORT



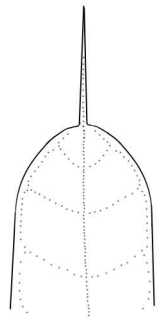
BROADLY



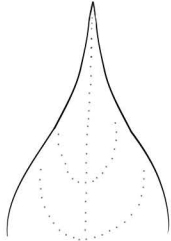
NARROWLY  
ACUTE



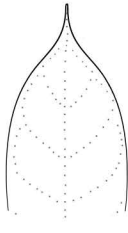
APICULATE



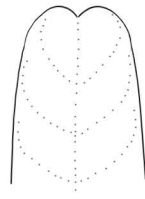
ARISTATE



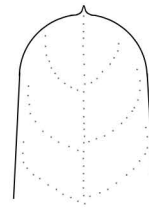
CAUDATE



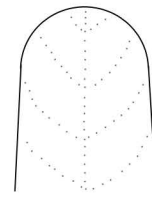
CUSPIDATE



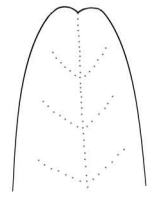
EMARGINATE



MUCRONATE

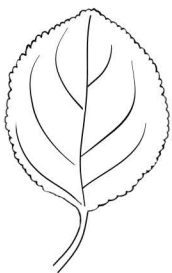


OBTUSE

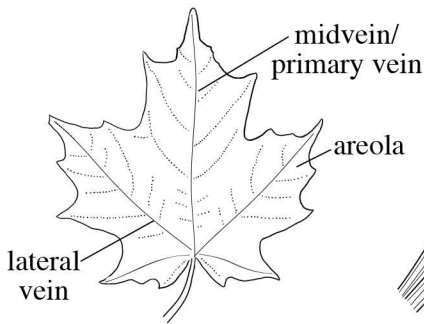


RETUSE

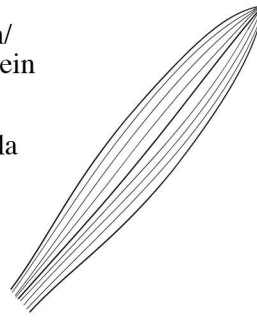
## VENATION



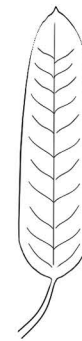
ARCUATE



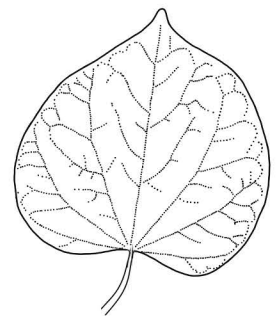
PALMATE



PARALLEL

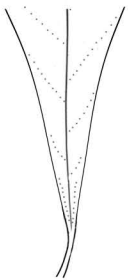


PINNATE

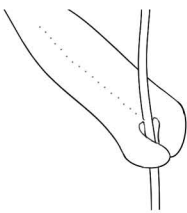


RETICULATE

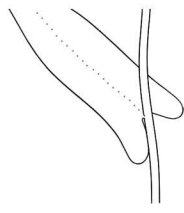
## BASES



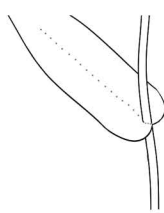
ATTENUATE



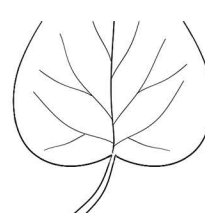
AMPLEXICAULE



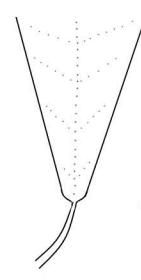
AURICULATE



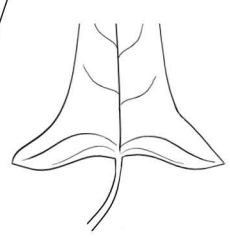
CLASPING



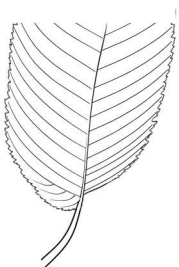
CORDATE



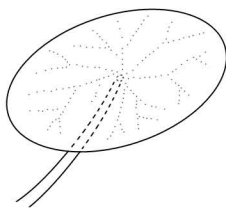
CUNEATE



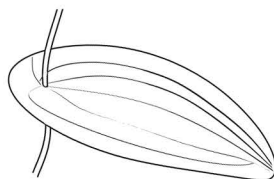
HASTATE



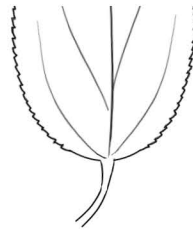
OBLIQUE



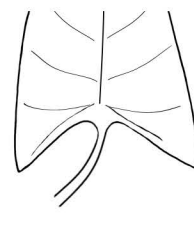
PELTATE



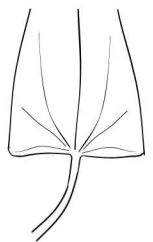
PERFOLIATE



ROUNDED

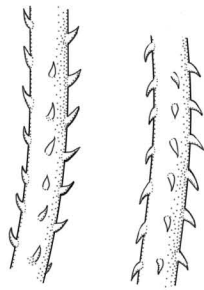


SAGITTATE



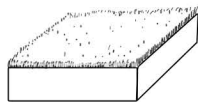
TRUNCATE

# PLATE 6: SURFACE FEATURES, PUBESCENCE

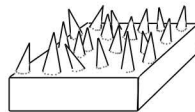


ANTRORSE RETRORSE

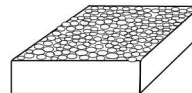
BARBELLATE



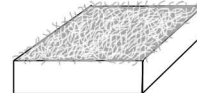
CANESCENT



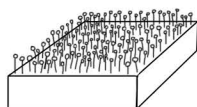
ECHINATE



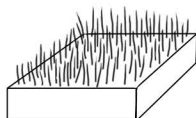
FARINOSE



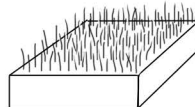
FLOCCOSE



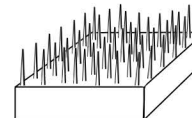
GLANDULAR  
(STIPITATE)



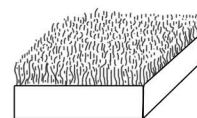
HIRSUTE



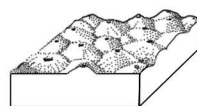
HIRTELLOUS



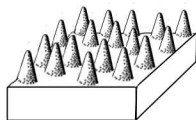
HISPID



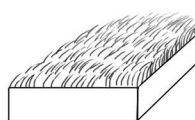
LANATE



LEPIDOTE



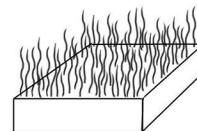
MURICATE



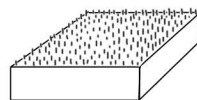
PANNATE  
(PANNOSE)



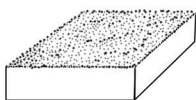
PAPILLATE



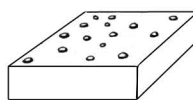
PILOSE



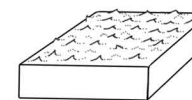
PUBERULENT



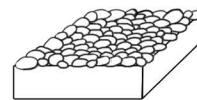
PULVERULENT



RESINOUS  
(GLANDULAR)  
(ATOMIFEROUS)



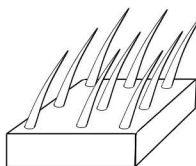
SCABROUS



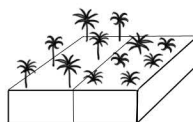
SCURFY



SERICEOUS



SETOSE

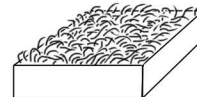


STIPITATE SESSILE

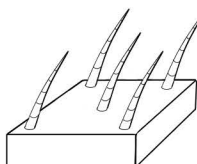
STELLATE



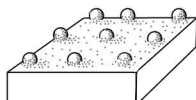
STRIGOSE



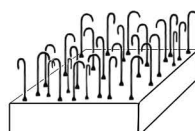
TOMENTOSE



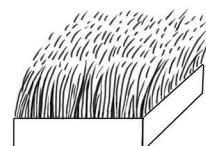
TRICHOMES  
(BRISTLES)



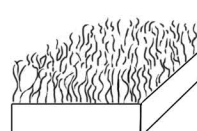
TUBERCULATE



UNCINATE



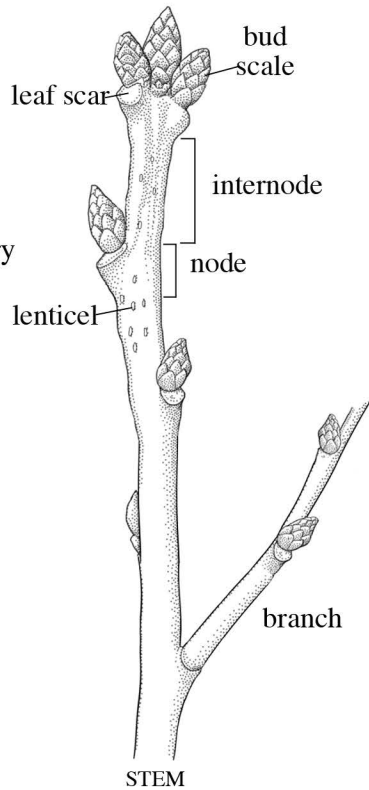
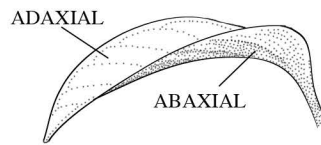
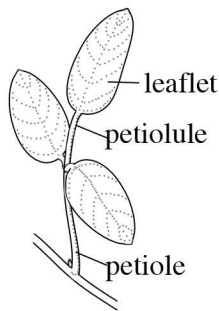
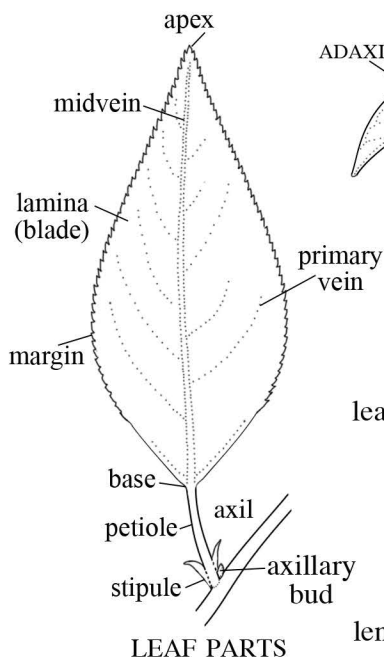
VELUTINOUS



VILLOUS



# PLATE 7: STEM AND LEAF PARTS, AND VARIATIONS



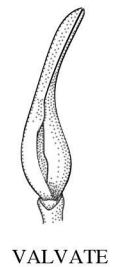
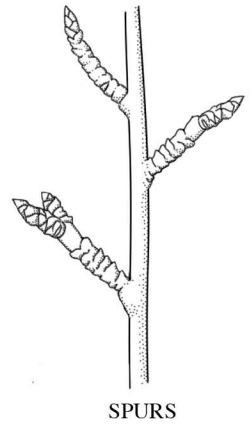
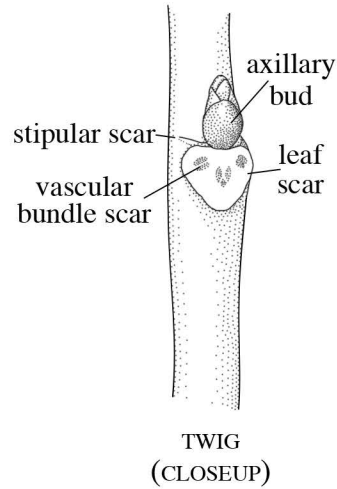
QUADRANGULAR  
(ANGULATE)

DECURRENT  
(WINGED)  
(ALATE)

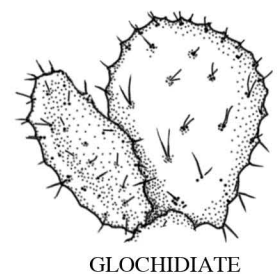
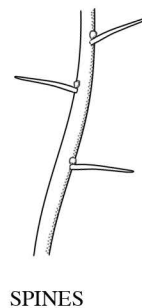
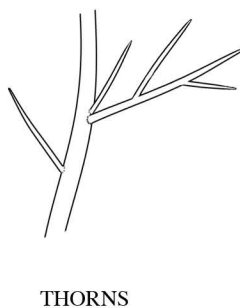
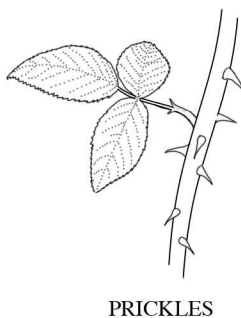
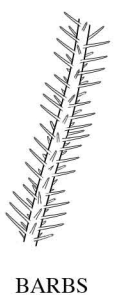
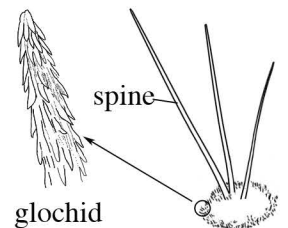
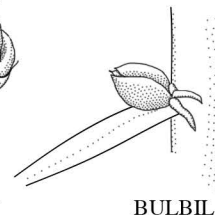
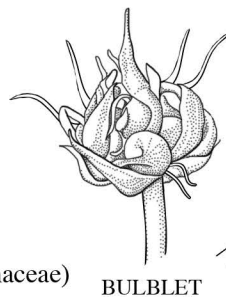
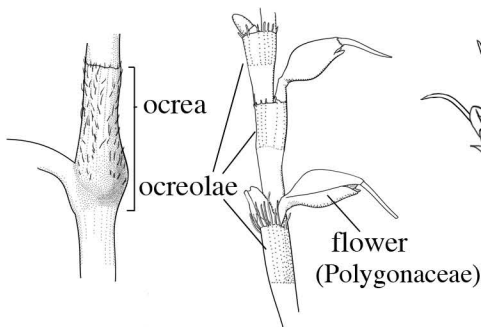
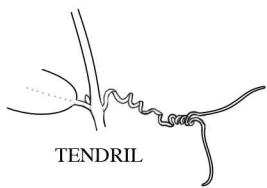
CHAMBERED

CONTINUOUS  
PITH

HOLLOW

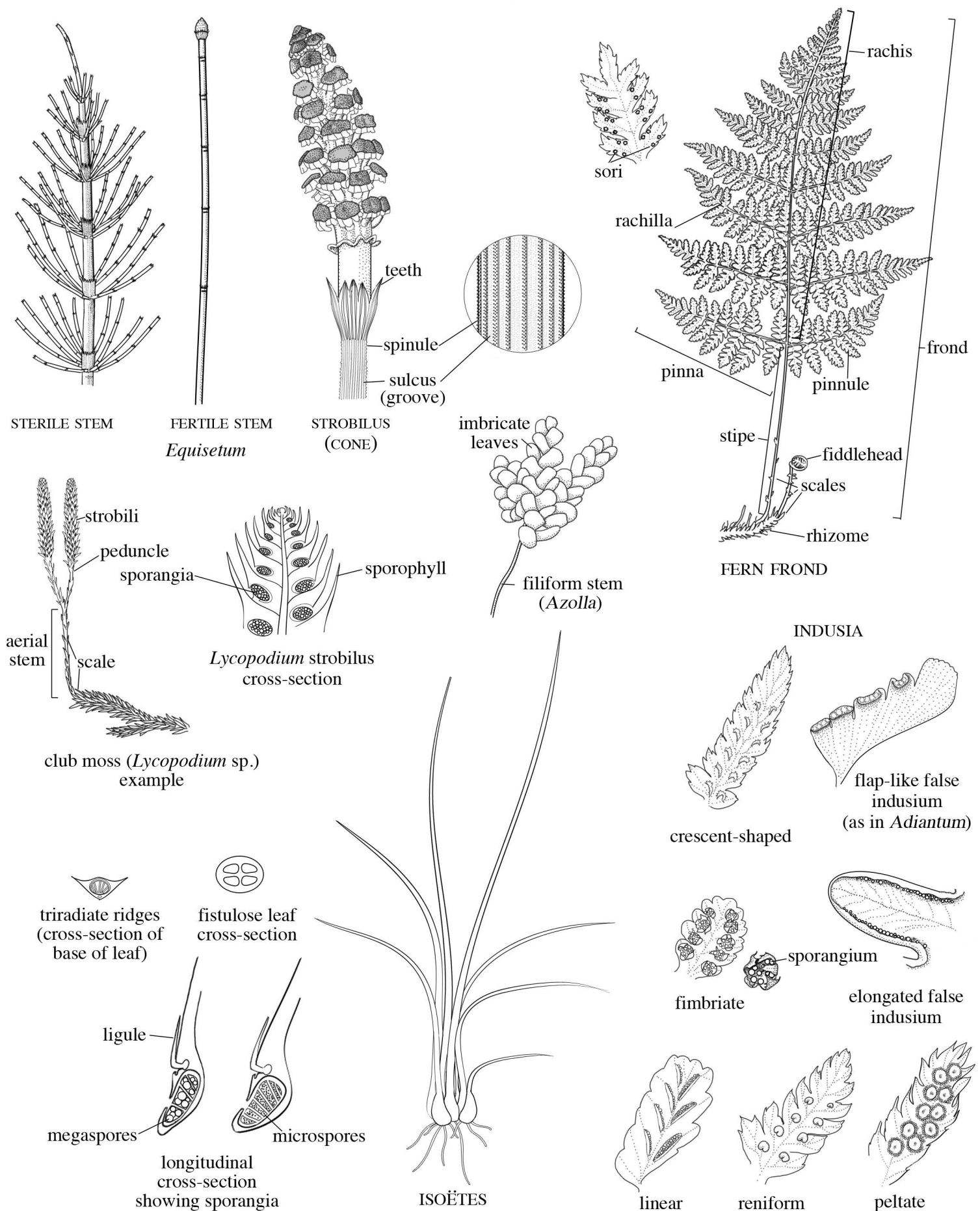


BUD TYPES

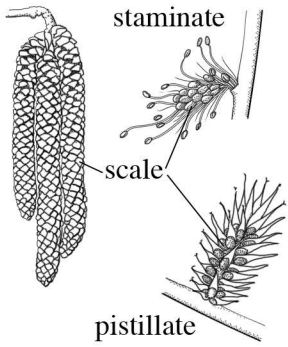




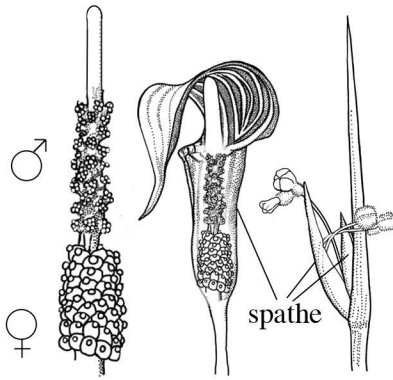
# PLATE 8: STEM AND LEAF PARTS, AND VARIATIONS: CRYPTOGRAMS



# PLATE 9: INFLORESCENCE TYPES

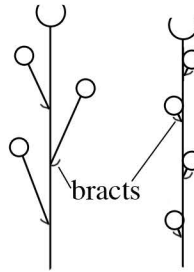


CATKINS/AMENTS



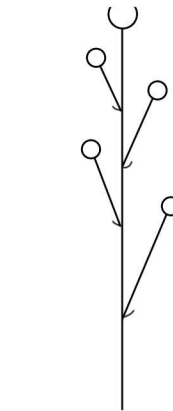
SPADIX

SPATHE

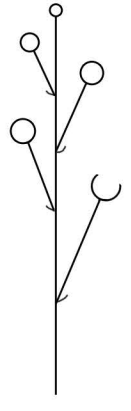


PEDICELLATE

SESSILE

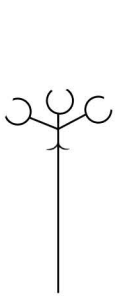


DETERMINATE

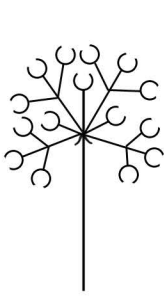


INDETERMINATE

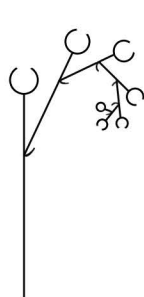
## RACEMES



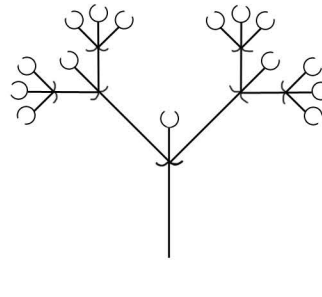
SIMPLE



COMPOUND



SCORPIOID/CIRCINATE



DICHASIUM

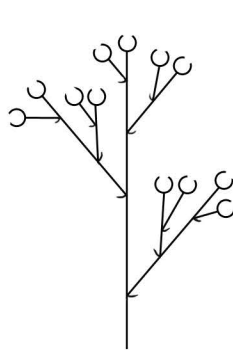
## CYMES



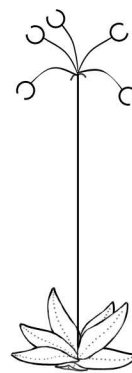
CAPITULUM/  
HEAD



GLOMERULE



PANICLE  
(DICHOTOMOUS  
BRANCHING)



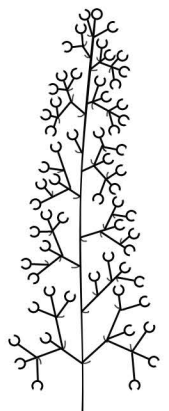
SCAPE  
(ACAULESCENT)



SECUND

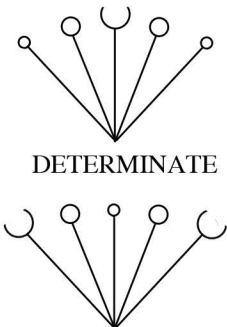


SPIKE

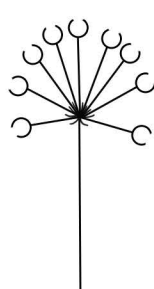


THYRSE

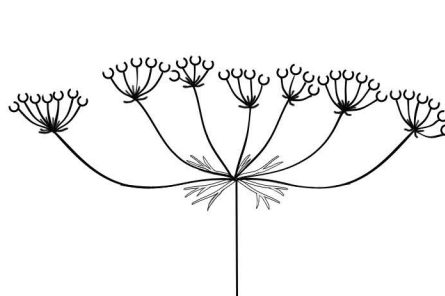
## CORYMBES



INDETERMINATE



SIMPLE



COMPOUND

## UMBELS



AXILLARY

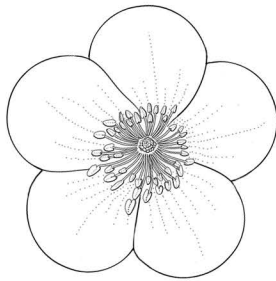


SUPRA-AXILLARY

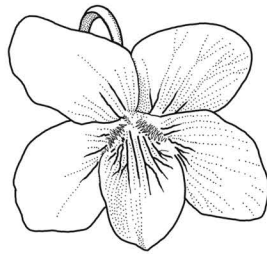
## VERTICILS

# PLATE 10: FLORAL MORPHOLOGY

## SYMMETRY

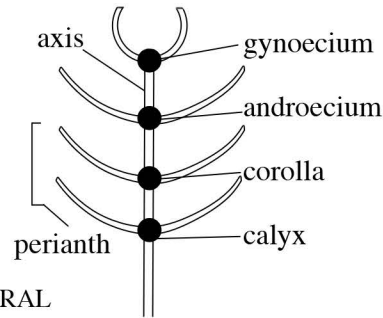


ACTINOMORPHIC/RADIAL

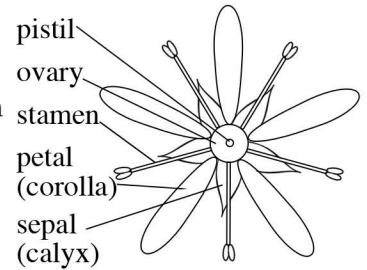


ZYGOMORPHIC/BILATERAL

## FLORAL PARADIGM

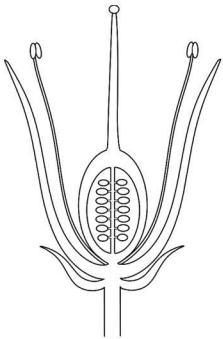


(note the layered whorls of floral structures)

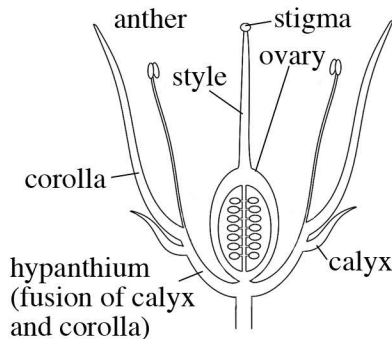


(sepals are almost always alternate with the petals and opposite the stamens)

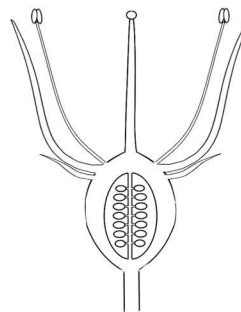
## OVARY/PERIANTH POSITION



SUPERIOR OVARY | HYPOGYNOUS PERIANTH



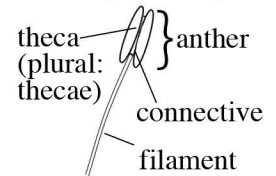
SUPERIOR OVARY | PERIGYNOUS PERIANTH



INFERIOR OVARY | EPIGYNOUS PERIANTH

## ANDROECIUM

(stamens)



## GYNOECIUM

the gynoecium is composed of the stigma, style, and ovary

## PLACENTATION TYPES



MARGINAL



AXILE



PARIETAL



BASAL

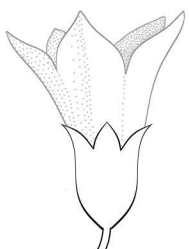


APICAL

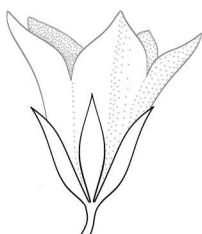


FREE-CENTRAL

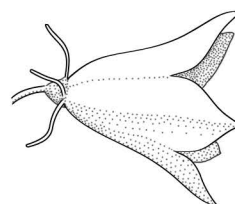
## PERIANTH TYPES



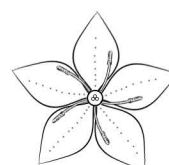
UNITED SEPALS



SEPARATE SEPALS

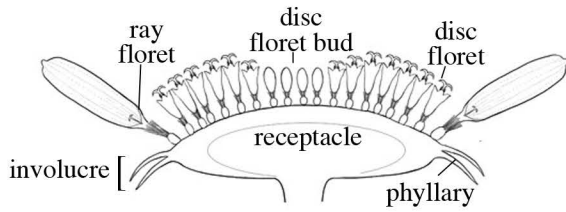


UNITED COROLLA LOBES

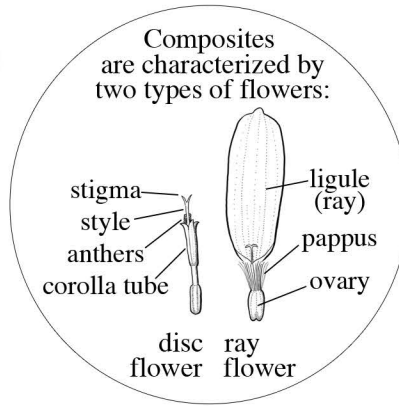


SEPARATE COROLLA LOBES

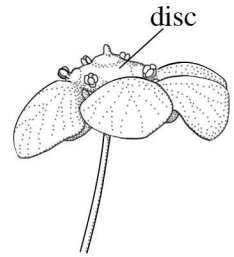
# PLATE 11: FLORAL MORPHOLOGY VARIATIONS



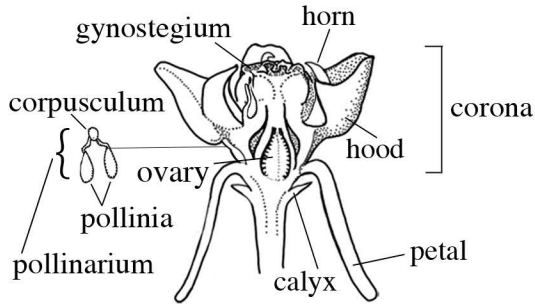
Composite flower head cutaway (Asteraceae)



Composites are characterized by two types of flowers:

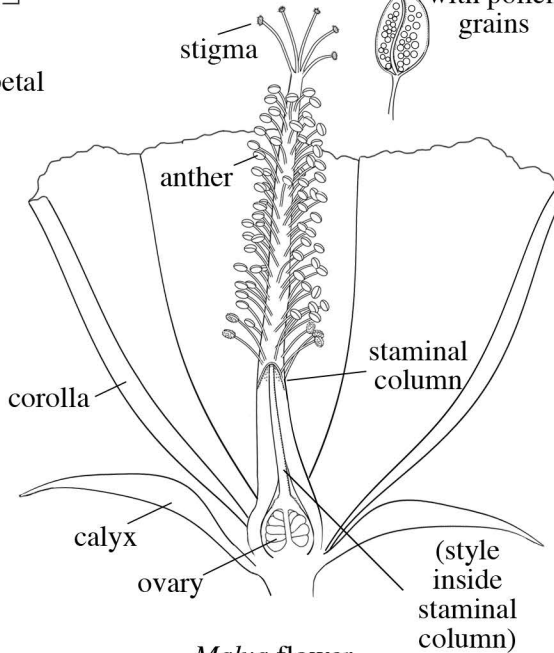


*Euonymus* flower

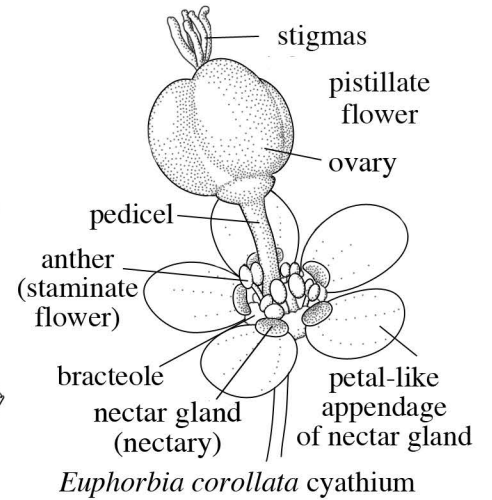


*Asclepias* flower cutaway

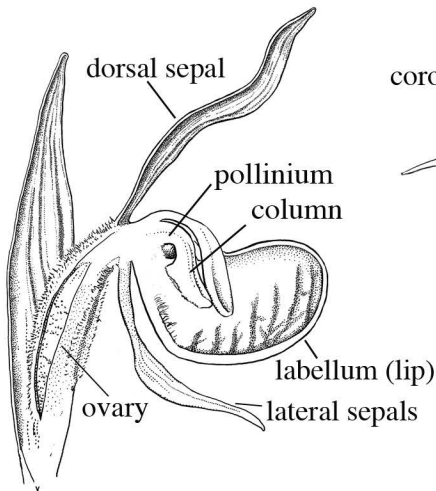
*Malva* anther with pollen grains



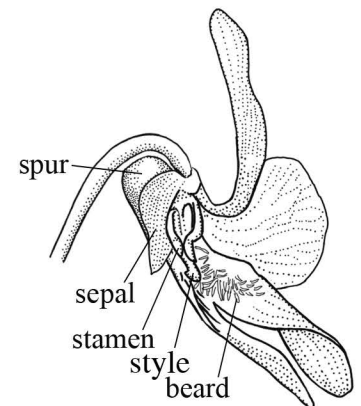
*Malva* flower



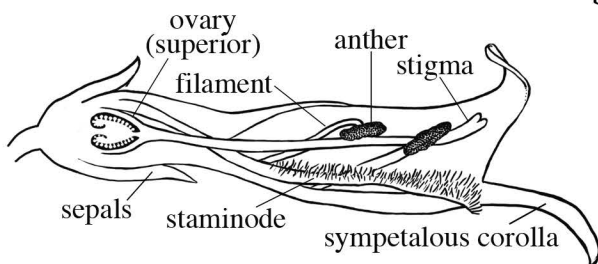
*Euphorbia corollata* cyathium



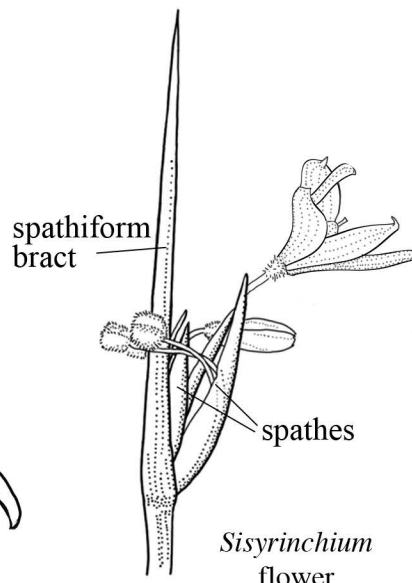
*Cypripedium* cutaway



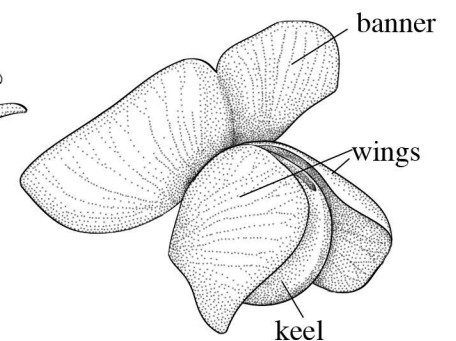
*Viola* flower cutaway



typical Plantaginaceae flower

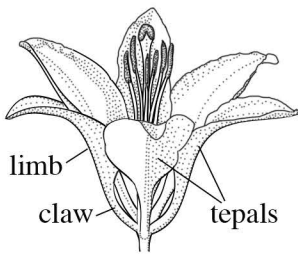


*Sisyrinchium* flower



typical papilionaceous flower

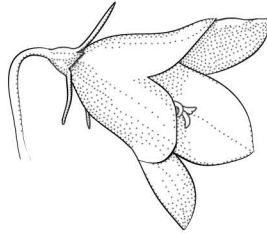
## PLATE 12: COROLLA TYPES



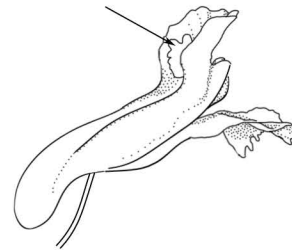
RADIATE



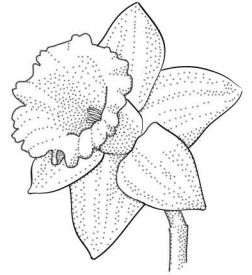
BILABiate



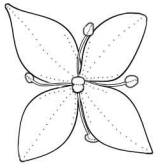
CAMPANULATE



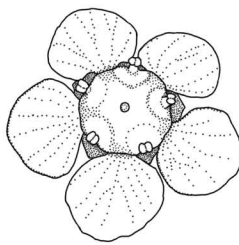
CRISTATE  
(CARINATE)



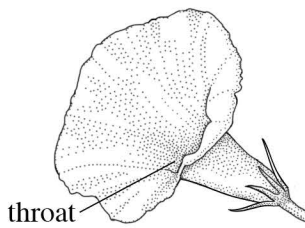
CORONATE



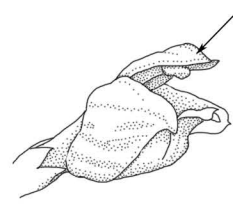
CRUCIFORM



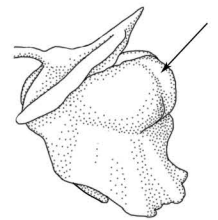
DISC



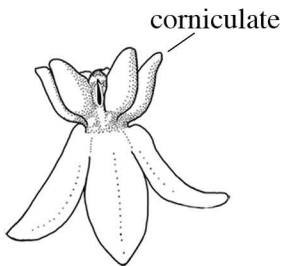
FUNNELFORM



GALEATE  
(CUCULLATE)



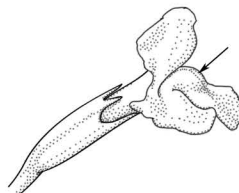
GIBBOUS



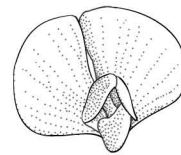
HOOD & HORN



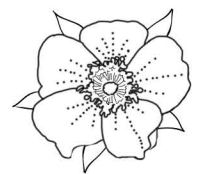
LIGULATE



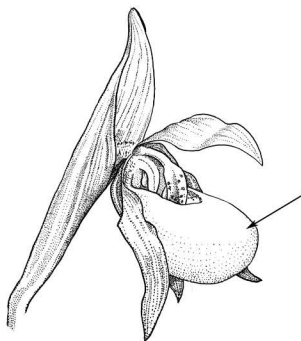
PALATE



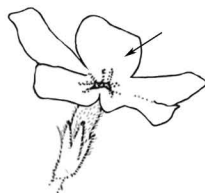
PAPILIONACEOUS



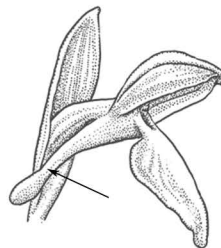
ROTATE



SACCATE



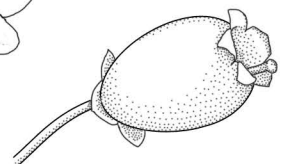
SALVERFORM



SPURRED



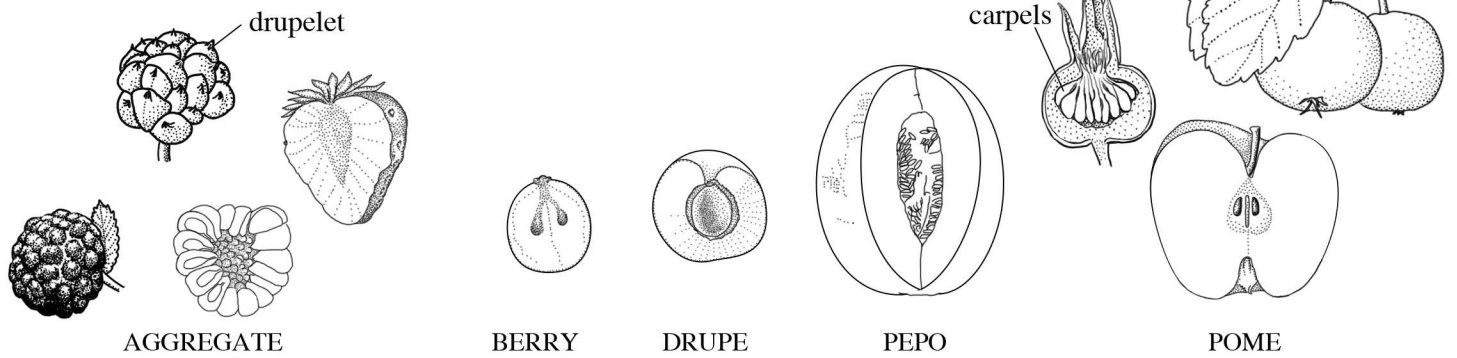
TUBULAR



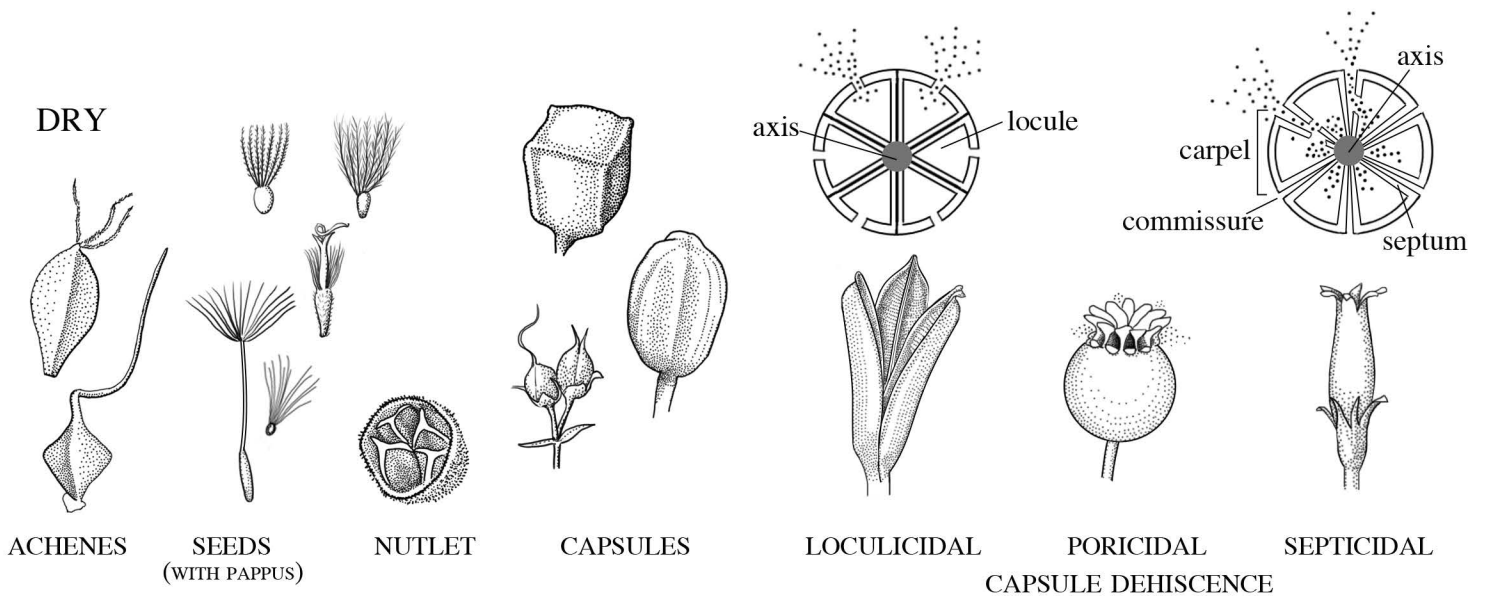
URCEOLATE

# PLATE 13: FRUIT TYPES

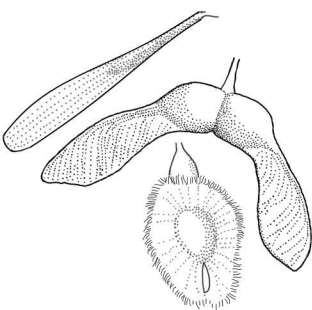
## FLESHY



## DRY

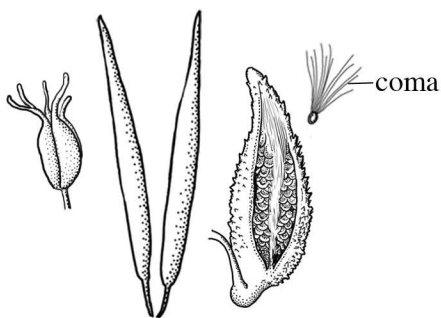


## CIRCUMSCISSE



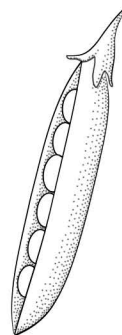
SAMARAS

## FOLLICLE



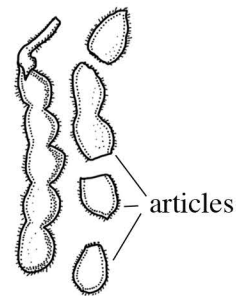
ARIL

## LEGUME



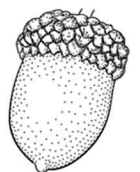
SCHIZOCARPS

## LOMENT



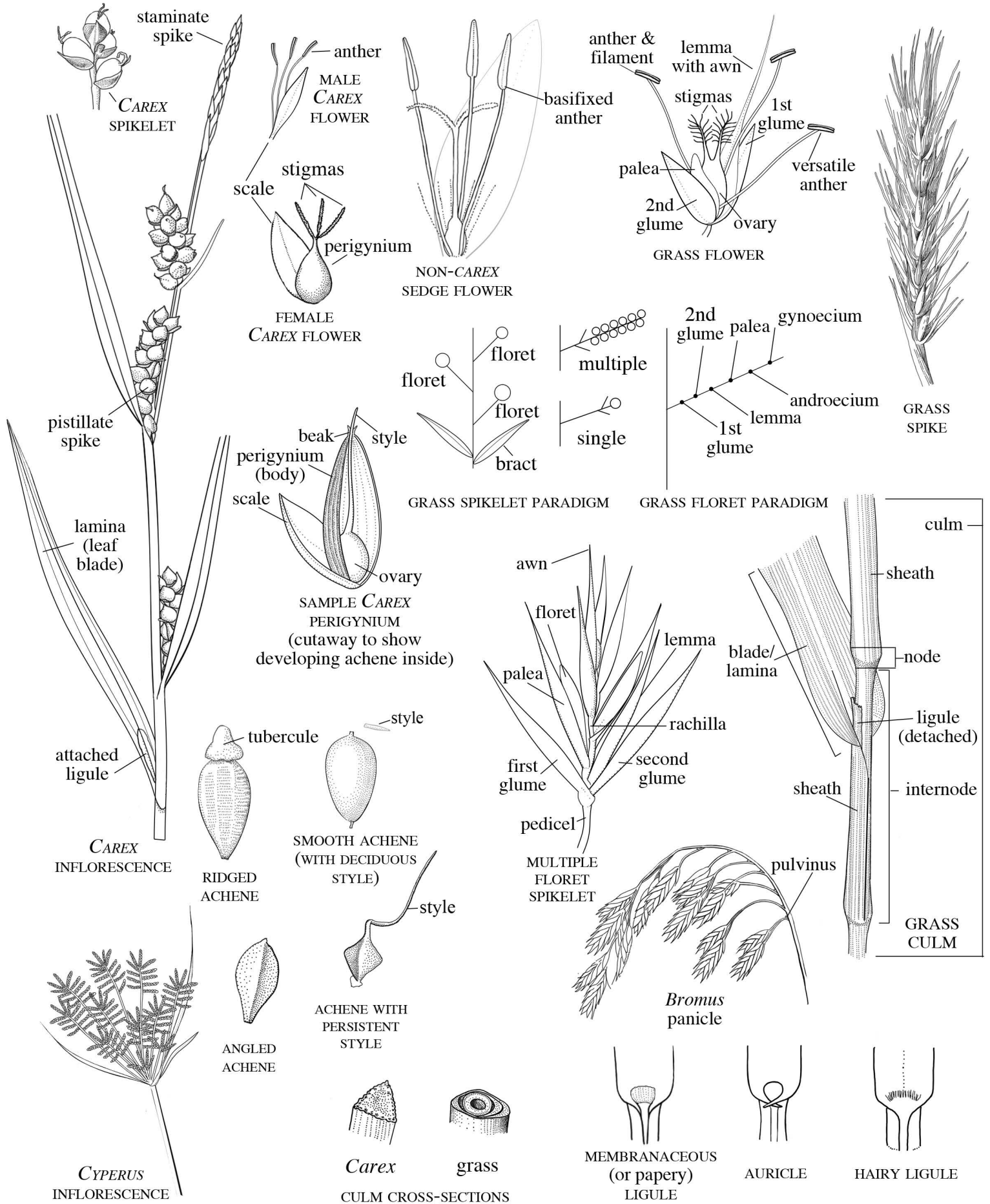
SILICLES

## NUT



SILIQUA

# PLATE 14: SEDGES AND GRASSES





# Glossary

This glossary includes definitions of words that have special meaning in a botanical or entomological context. Also included are terms that relate specifically to certain insects and pollination to accommodate their usage in *Flora of the Chicago Region, a Floristic and Ecological Synthesis*, by Wilhelm & Rericha, 2017. Generally, we have excluded plurals and adjectival forms of nouns. The user should be aware that Latin nouns are rendered according to their declension. Singular masculine nouns ending in *-us* end in *-i* in the plural: *annulus*, *annuli*. Neuter nouns ending in *-on* or *-um* end in *-a* in the plural: *taxon*, *taxa*; *haustorium*, *haustoria*. Feminine nouns ending in *-a* in the singular end in *-ae* in the plural: *ocrea*, *ocreae*; *areola*, *areolae*. Words shown in italics in the definitions are described elsewhere in the glossary. The Arabic numeral or numerals after a treated botanical term indicates the plate number on which an example or illustration is provided.

## A

*a-* – Prefix, meaning without or not.

*abaxial* – **7** ~ Said of a surface that faces away from the *axis* of the structure to which it is attached.

*abdomen* – The *posterior* portion of the 3-parted body of an insect.

*aberrant* – Atypical.

*abortive* – Defective, barren, or undeveloped.

*abrupt* – **5** ~ Sudden, not gradual.

*abscission* – The disconnection of a *leaf*, *flower*, *fruit*, or other plant part, usually forming a *scar*.

*acaulescent* – **9** ~ Stemless or apparently so.

*accrescent* – Increasing in size after flowering, most commonly in reference to the *calyx*.

*achene* – **13, 14** ~ A hard, 1-seeded, *indehiscent* nutlet with a tight *pericarp*.

*acicular* – **3** ~ Needle-like.

*actinomorphic* – **10** ~ Radially *symmetrical*; capable of being bisected into two or more similar planes.

*acuminate* – **5** ~ Tapering with incurved marginal lines to a slender tip.

*acute* – **5** ~ Tapering with straight marginal lines to a sharp tip.

*adaxial* – **7** ~ Said of a surface that faces toward the *axis* of the structure to which it is attached.

*adherent* – Joined to a dissimilar plant tissue. Compare with *coherent*.

*admixed* – Blended.

*adnate* – Born together.

*adpressed* – **2** ~ Lying close to but separate from another tissue or organ.

*adventitious* – Sprouting or growing from unusual places, such as *roots* that originate from a *stem*, or *buds* that associate with wounds.

*adventive* – Not *native*, introduced.

*aerial* – **8** ~ Said of structures that originate above the ground.

*aggregated* – **13** ~ Crowded together.

*alate* – **7** ~ Winged.

*Alfisol* – A taxonomic order of soils, usually forest-developed, that lacks the *organic matter* and productivity of a richer soil, such as a *Mollisol*, and possesses a leached *horizon* and *subtending* zone of accumulated clay.

*alkaline* – Having a pH higher than 7.0.

*allochthonous* – Not indigenous.

*alluvium* – Sand, silt, and other particles deposited by moving water.

*alternate* – **2** ~ One after the other along an *axis*, not *opposite*.

*alveolate* – Like a honeycomb; with angular cavities separated by partitions.

*ament* – **9** ~ A dry, usually elongate, often *pendulous*, scaly *spike* that bears *imperfect flowers*; a *catkin*.

*amentiferous* – Bearing *aments*.

*amplexicaule* – **5** ~ Clasping the *stem*, *culm*, or similar *axis*.

*anastomose* – To interconnect, such as the *veins* of a *leaf*.

*androecium* – **10, 14** ~ The portion of the flower that bears the *stamens*.

*androgynous* – With *staminate flowers* situated above the *pistillate* ones in the same *inflorescence*. Compare with *gynecandrous*.

*anemophilous* – Pollinated by wind.

*angled* – **14** ~ having *angles*, usually along a *stem* or *petiole*.

*angiosperm* – A flowering plant that produces *seeds* enclosed in a structure derived from the *ovary*.

*angulate* – **7** ~ Having angles.

*annual* – **1** ~ Plant that completes its life cycle in one year or less.

*annulus* – Tissue that forms a ring or is arranged in a circle.

*antenna* – One of a pair of elongate, usually segmented, sensory organs on the head of an insect.

*antennation* – Referring to the touching of an object, such as an *anther*, by the *antenna(e)* of an insect to smell it.

*antepetalous* – **10** ~ With *stamens* opposite the *petals*.

*anterior* – Plants: positioned away from the *stem* or *axis*. Insects: in front of.

*antesepalous* – **10** ~ With *stamens* opposite the *sepals*.

*anther* – **10, 11, 14** ~ Pollen-bearing portion of the *stamen*.

*antherode* – A sterile *anther*.

*anthesis* – Time of flowering during which the *anthers* *dehisce* and the *stigmas* are receptive to *pollen*.

*antrorse* – **6** ~ Directed forward or distally.

*apetalous* – Without *petals*.

*apex* – **7** ~ Tip, end.

*apical* – **10** ~ Pertaining to the *apex*.

*apiculate* – **5** ~ Abruptly short-pointed.

*apiculus* – A short point or minute *beak*.

*appendage* – **11** ~ An attached, often evidently functionless *vegetative* process.

*appressed* – **2** ~ Lying flat against a surface.

*approximate* – Borne near but not fused.

*aquatic* – Living out the life cycle in water.

*arachnoid* – Like a cobweb.

*arboreal* – Tree-like or pertaining to a tree.

*arborescent* – Becoming tree-like.

*arcuate* – **5** ~ Arching, bowed.

*areola* – **5** ~ Space between the *veins* of a *leaf* or some similar structure.

*aril* – **13** ~ An *appendage* that grows out from a *seed*.

*arillate* – Having an *aril*.

*aristate* – **5** ~ Tipped by a stiff *bristle*; *awned*.

*armed* – Bearing *barbs*, *prickles*, *spines*, or *thorns*.

*aromatic* – Having a discernible odor; fragrant.

*array* – With respect to the Asteraceae, the disposition of the *heads*, usually evocative of a *corymb*, *cyme*, or *panicle*.

*article* – **13** ~ A section of a leguminous *fruit* separated from other sections by a constriction or partition.

*articulation* – A joint.

*ascending* – **1, 2** ~ Growing or directed in an upward direction, or at least tending to do so.

*asexual* – Applied to reproduction without the involvement of a *zygote*.  
*asymmetrical* – Unequally developed on either side of an *axis*.  
*atom* – Small, usually *resinous* dot or *gland*.  
*atomiferous* – 6 ~ Bearing *atoms*.  
*attenuate* – 5 ~ Gradually tapered to a slender tip.  
*atypical* – Varying from the usual.  
*auricle* – 14 ~ Ear-shaped *appendage* or *lobe*.  
*auriculate* – 5 ~ Bearing an *auricle*.  
*autogamy* – Self-fertilization.  
*autumnal* – Appearing or flowering in fall.  
*awn* – 14 ~ A stiff *bristle*, usually situated at the tip of a *leaf* or *perianth* segment; in grasses, at or near the tip of a *glume* or *lemma*.  
*axil* – 7 ~ The area or angle formed between the base of an organ and the structure from which it originated, commonly where buds, branchlets, or flower stalks are borne.  
*axile* – 10 ~ Positioned along the central axis of an ovary that has two or more locules.  
*axillary* – 9 ~ Pertaining to an *axil*.  
*axillary bud* – 7 ~ Bud arising from an *axil*.  
*axis* – 10, 13 ~ The central part of a longitudinal support, commonly of a stem or inflorescence, on which organs or parts are arranged.

## B

*banner* – 11 ~ Larger upper *petal* in a *papilionaceous flower*.  
*barb* – 7 ~ Short, sharp, process or stiff hair.  
*barbellate* – 6 ~ Beset with fine *barbs*.  
*bark* – All tissues of a *woody plant stem* or *branch* external to the *cambium*.  
*basal* – 2, 7 ~ Pertaining to the lowermost part of a plant or plant organ.  
*base-rich* – Rich in basic ions, such as calcium and magnesium.  
*basifixed* – 14 ~ Said of an organ attached to its *stalk* at the base.  
*beak* – 14 ~ A slender *terminal* process, usually abruptly differentiated from the general outline of the organ from which it originates; often applied to *fruits* and *pistils*.  
*bearded* – 11 ~ Bearing a localized tuft of hairs.  
*berry* – 13 ~ A *fleshy* or pulpy *fruit*, typically with two or more *seeds* that develop from a single *ovary*.  
*bi-* – Prefix meaning two or twice.  
*bicolored* – Of two different shades, particularly on either side of a *leaf*.  
*biconvex* – *Convex* on both surfaces.  
*bidentate* – Having two *teeth*.  
*biennial* – Plant that requires two years to complete its life cycle, the first year typically manifested by a *rosette*, the second year with the production of an *inflorescence*.  
*bifid* – Cleft into two parts, usually at the summit of some organ.  
*bilabiate* – 12 ~ Two-lipped; most often applied to *zygomorphic perianths*.  
*bilateral* – 10 ~ Generally with 2 similar halves, such as is seen in a *zygomorphic flower*.  
*bilobed* – With two *lobes*.  
*bilocular* – With two *locules*.  
*binomial* – A taxonomic name that consists of a genus and species.  
*bipinnate* – 2 ~ Twice *pinnately compound*.  
*bipinnatifid* – Twice *pinnatifid*.

*biterminate* – 2 ~ Twice *ternate*; when the divisions of a leaf are *divided* into three.  
*bivalved* – Having two sides or units that originate at a common point.  
*bladder* – An inflated *sac* that contains either fluid or air.  
*blade* – 7, 14 ~ The expanded portion of a *foliar* or *floral* organ.  
*bloom* – A whitish powdery or waxy covering on the surface of an organ.  
*blunt* – *Obtuse*; with a rounded tip.  
*body* – 14 ~ Generally, the *ovary*-bearing portion of an *ovary*, as apart from the *beak*.  
*bole* – 1 ~ The trunk of a *tree*.  
*boreal* – Northern.  
*bract* – 9, 14 ~ A reduced *leaf* or *scale*, typically one that *subtends* a *pedicel* or an *inflorescence* or *flower*.  
*bracteal* – Pertaining to a *bract*.  
*bracteate* – With *bracts*.  
*bracteole* – 11 ~ A small *bract*, typically one that *subtends* a *flower*, the *pedicel* of which already is *subtended* by a *bract*.  
*bractlet* – A secondary *bract*, as one upon the *pedicel* of a *flower*.  
*branch* – 1, 7 ~ A secondary *shoot* that arises from a *stem* or the bifurcation of a *root* into smaller order units.  
*branchlet* – A division of a *branch*, smaller than the main *branch*.  
*bristle* – 6 ~ Stiff *hair* or *trichome*.  
*bristly* – With *bristles*.  
*brunescient* – Becoming brown or brownish.  
*bud* – 7 ~ Developing tissue enclosed in *scales* or *valves*, usually in an *axil*.  
*bud scales* – 7 ~ Small, often *chartaceous*, modified *leaves* that enclose a *bud*.  
*bulb* – 1 ~ A short, usually *subterranean*, often *subglobose*, *stem* surrounded by *scales* or modified *leaves*.  
*bulbil* – 7 ~ A small, usually *axillary*, *bulb*-like organ.  
*bulblet* – 7 ~ A small *bulb*-like organ, particularly one that proliferates from a *leaf axil* or *sterile flower*.  
*bulbous* – Having the character of a *bulb* or the shape of a round protrusion.  
*bullate* – Blistered or *convexly* puckered.  
*bundle scar* – 7 ~ A tiny mark in the *leaf scar* which marks the *vascular pattern* once present in the *leaf*.  
*bur* – A *spiny* or *prickly*, usually dry, *fruit* or *infructescence*.

## C

*caducous* – Falling off early or prematurely; *deciduous*.  
*calcareous* – Limy, containing calcium.  
*calicolous* – Inhabiting a *calcareous* substrate, such as growing in calcium-rich soil.  
*calcifuge* – A plant poorly suited to *calcareous* soils.  
*calciphile* – With a propensity for *calcareous* habitats.  
*callosity* – A hardened thickening.  
*callus* – A hard protuberance or *callosity*. In grasses, the swelling at the base or joint of insertion of the *lemma* or *palea*.  
*calyx* – 10, 11 ~ The outer, lowermost series of *perianth* parts; the *sepals* taken collectively (pl. calyces).  
*cambium* – Thin layer of *meristematic* cells, typically that which gives rise to secondary xylem or phloem.  
*campanulate* – 12 ~ Bell-shaped or cup-shaped, typically with a flared or enhanced rim.  
*canaliculate* – Having a groove or channel.  
*cancellate* – Having a net-like or sculptured surface.  
*cane* – The elongated new *shoot* of *shrubs*, such as in the genus *Rubus*.  
*canescence* – Gray-hairy *indument*.

*canescent* – 6 ~ Densely beset with matted, often grayish hairs.

*capillary* – Hair-like.

*capitate* – Head-like; densely clustered.

*capitulate* – Bearing a *head*.

*capitulum* – 9 ~ A small *head* of flowers.

*capsule* – 13 ~ A dry *dehiscent fruit* composed of two or more *carpels*.

*carinate* – 12 ~ With a longitudinal ridge or *crest*.

*carpel* – 13 ~ A *pistil* or one of the units of a *compound pistil*.

*carpellate* – Having *carpels*.

*cartilaginous* – Cartilage-like; firm and tough but neither rigid nor bony.

*caryopsis* – In grasses a *nutlet-like fruit* with a thin *pericarp*; a *grain*.

*castaneous* – Dark reddish-brown, chestnut-colored.

*cation* – An ion with a positive charge, such as is characterized by the important plant nutrients Ca<sup>++</sup>, Mg<sup>++</sup>, and K<sup>+</sup>.

*cation exchange capacity* – The capacity of a soil to hold exchangeable *cations*.

*catkin* – 9 ~ An *ament*.

*caudate* – 5 ~ Tail-like or bearing a long, narrowly tapering *appendage*.

*caudex* – 1 ~ The *ligneous* or *woody base* of a *perennial* plant.

*caulescent* – Having an above-ground *leafy stem*.

*cauline* – 2 ~ Pertaining to the *stem* or features of the *stem*.

*cell* – A singular, *ovule-bearing* space within an *ovary*; *carpel*.

*cespitose* – 1 ~ *Tufted*; referring to the compact, centrally arranged bases of *stems* or *culms*.

*chaff* – Dry, scaly, and often small *bracts*; typically in reference to *scales* that *subtend* the individual flowers in *heads* in the Asteraceae; see also *pale*.

*chambered* – 7 ~ Areas of the *pith* of *twigs* where partitions occur at intervals.

*chartaceous* – Thin, but firm; resembling ancient writing paper.

*chasmogamous* – *Flowers* that are open for *pollination*.

*chlorophyll* – The green pigment in the cells of plants essential for photosynthesis.

*cilia* – Hairs or slender *bristles* confined to the margins of an organ.

*ciliate* – 4 ~ Fringed with *cilia* or bearing *cilia*.

*ciliolate* – 4 ~ Minutely *ciliate*.

*ciliolulate* – Minutely *ciliolate*.

*cinereous* – Ash-gray colored.

*circinate* – 9 ~ Coiled, as in unrolled fern *fronds*; *scorpioid*.

*circumscissile* – 13 ~ Pertaining to the *dehiscence* of a *capsule*, which opens by a circular, horizontal line, the top usually coming off as a lid.

*cladophyll* – A leaf-like, *terete* or flattened *branch*.

*clammy* – Sticky, greasy.

*clasping* – 5 ~ Tending to encircle or invest, as in the base of a *leaf* that forms partly around the *stem* to which it is attached.

*clavate* – Club-shaped; *dilated* apically.

*claw* – 12 ~ The narrowed base or *stalk* of some *petals*.

*cleft* – 4 ~ Distinctly *divided* or *incised*.

*cleistogamous* – Fertilized in a permanently unopened *flower*.

*cleptoparasite* – As it relates to bees, a female cleptoparasite enters a host nest to lay an egg. After the egg hatches, its larva eats the food provisions collected by the bee host. The host egg is destroyed by either the laying cleptoparasite or the cleptoparasitic larva.

*clone* – A group of individuals resulting from *vegetative* propagation, presumably a genetic duplicate of the source plant.

*coarse* – Rough.

*coherent* – Joined or combined with similar plant tissue. Compare with *adherent*.

*colloid* – As it relates to soils, the soil colloids consist of clays and *organic matter* (humus), which have a charged surface area (typically a net negative surface charge) that can hold or adsorb *cations*.

*column* – **11** ~A sheathing structure formed by the uniting of *stamens* around a *pistil*; fusion of *stamens* and *pistils* into a single structure.

*columnar* – Growth form shaped like a column or pillar.

*coma* – A dense tuft of hairs, often resembling a beard, attached to a *seed*.

*commissure* – **13** ~ The face or grooved seam where two *carpels* come together.

*comose* – Bearded; with a *coma*.

*composite* – **11** ~ Any plant in the Asteraceae.

*compound* – **2, 9** ~ An assembly of two or more like parts, such as in a description of a *leaf* or *inflorescence*.

*compressed* – Strongly flattened.

*concave* – The inverse of *convex*.

*concentric* – Two or more circles of different sizes having a center in common.

*concolorous* – With two or more parts or surfaces similarly colored.

*conduplicate* – **2** ~ Folded together lengthwise.

*cone* – **8** ~ Three-dimensional object with a circular base, the sides all curved and tapering to a point at the *summit*; the *seed*-bearing structure of pines and their relatives; a *spore*-bearing structure in the genus *Equisetum*.

*confluent* – The seamless convergence of two or more parts.

*conical* – Cone-shaped.

*coniferous* – Cone-bearing.

*conjoined* – Joined together.

*connate* – Said of two or more parts fused or united into a singular structure.

*connective* – **10** ~ The part of the *stamen* that connects the two parts of an *anther*.

*connivent* – Meeting at a common point, but not fused.

*conspecific* – Said of two or more described taxa that are believed to belong to the same species.

*contiguous* – Adjoining or touching.

*continuous* – **7** ~ Uninterrupted, such as in an unchambered *pith*

*contracted* – Abruptly narrowed or reduced.

*converge* – Arrive or come together.

*convex* – Curved or rounded, as the exterior surface of a circular form viewed from without; opposite of *concave*.

*convolute* – **4** ~ Said of a *leaf* margin that is rolled on the *abaxial* surface toward the *midrib*; compare with *involute*.

*coralline* – Brittle, coral-like.

*corbicula* – A *pollen*-carrying “basket” on the hind tibia, femur, or propodeum of females of some bee genera, the surface *concave* or flat, usually smooth, and surrounded by short to long hairs. A corbicula on bees in the genera *Apis* and *Bombus* is on the outer surface of a hind tibia.

*cordate* – **3, 5** ~ Heart-shaped.

*coriaceous* – Leather-like.

*corm* – **1** ~ Solid, *bulb*-like *stem* tissue, usually subterranean, as in the “bulb” of a *Crocus* or *Gladiolus*.

*cormose* – With a *corm*.

*corniculate* – **12** ~ With a horn-like process.

*corolla* – **10, 11, 12** ~ The inner series of *perianth* parts, often colored; the *petals* taken collectively; the upper whorl of the *perianth*, the *petals* usually alternate with the *sepals*.

*corona* – **11** ~ A cylindric or crown-like modification of the *perianth*.

*coronate* – **12** ~ With a *corona*.

*corpusculum* – **11** ~ The central, sticky, pad-like structure of the *pollinarium* in the *Asclepiadaceae* that facilitates transfer to an insect when it visits an *inflorescence*.

*corrugated* – Wrinkled or folded in parallel lines.

*cortex* – Bark; smooth surface *indument*.

*corymb* – **9** ~ An arrangement of the *inflorescence* in which stalked *flowers* are situated along a central *axis*, the *flowers* tending to attain the same elevation with respect to each other, the older at the edges.

*corymbiform* – Resembling a *corymb*.

*corymbose* – With a *corymb*.

*corymbulose* – With a small *corymb*.

*costa* – Rib or *vein*.

*costate* – Having one or more *costae*.

*cottony* – With the consistency of cotton.

*cotyledon* – A seed *leaf*; the first *leaf* (or leaves) to appear during the development of a seedling.

*crateriform* – Saucer-shaped or cup-shaped, usually shallowly so.

*creeping* – Growing along the surface or just below the ground.

*crenate* – **4** ~ Very shallowly toothed with broad, blunt *teeth*.

*crenulate* – **4** ~ Minutely *crenate*.

*crescent-shaped* – **8** ~ said of an organ bent in one direction, such as a quarter moon.

*crest* – A ridge or strong *keel*, typically along one side of an *achene* or *nutlet*; the elevated portion of a *petal*, as in some *Iris* species.

*crisped* – Curled, wavy, or crinkled.

*cristate* – **12** ~ With a *crest*.

*crosier* – Evocative of a bishop’s staff, the end coiled into a hook, such as in the fiddleheads of ferns.

*crown* – That portion of a *perennial stem* at the ground surface; canopy of a *tree*; remnants of a persistent *calyx* atop an *ovary* or *fruit*; in the *Poaceae*, a dilated ring at the summit of *lemmas* of certain genera; in the *Asteraceae*, *scales* or *awns* at the *summit* of an *achene*.

*cruciform* – **12** ~ Cross-shaped.

*cucullate* – **12** ~ Hood-shaped.

*culm* – **14** ~ The *stem* of grasses, sedges, and rushes.

*cultivar* – A variant of a species maintained through cultivation and vegetative propagation, designated by single quotes.

*cuneate* – **5** ~ Wedge-shaped.

*cupuliform* – Cup-like.

*cuspidate* – An abrupt point or *tooth*.

*cuspidate* – **5** ~ Bearing a *cuspidate*.

*cuticle* – An often waxy outer layer of *epidermal* cells.

*cyathium* – **11** ~ The *cupuliform involucre* characteristic of the *Euphorbiaceae* that contains a *pistillate flower* and 1-many *staminate flowers*.

*cylindric* – Shaped like a cylinder.



*cyme* – **9** ~ An often flat-topped *inflorescence*, the central *floret* of which flowers first.

*cymiform* – Resembling a *cyme*.

*cymose* – Bearing a *cyme* or *cyme*-like *inflorescence*.

*cymule* – A small, often compacted and usually few-flowered *cyme*.

## D

*DBH* – The diameter of a tree at breast height.

*deciduous* – **14** ~ Pertaining to plants that shed their *herbaceous* tissues; not evergreen; *caducous*.

*decompound* – Divided or *compound* more than once.

*decumbent* – **1** ~ Trailing along the ground, but with the *inflorescence* or summit of the *stem* ascending or erect.

*decurrent* – **7** ~ Usually pertaining to some flat *foliar* organ, the tissue of which continues beyond its base along an elongate *axis*, usually a *stem* or *petiole*.

*decussate* – Opposite *leaves* in four rows up and down the *stem*; alternating in pairs at right angles.

*deflexed* – **2** ~ Abruptly directed downward; reflexed.

*dehisce* – To open along a line or *suture*.

*dehiscence* – **13** ~ The opening of a *fruit* or *anther* by either *stomia*, *valves*, *sutures*, *pores*, etc.

*dehiscent* – The adjectival form of *dehiscence*.

*deliquescent* – Dissolving.

*deltate* – **3** ~ A two-dimensional triangular shape.

*deltoid* – A three-dimensional triangular shape.

*dentate* – **4** ~ Toothed, particularly in regard to *leaf* margins.

*denticulate* – **4** ~ Minutely *dentate*.

*depauperate* – Poor; with little sustenance or vigor.

*descending* – Directed downward at a moderate angle.

*determinate* – **9** ~ *Inflorescence* with *terminal* flowers that open first; compare with *indeterminate*.

*diadelphous* – Describing *stamens* as two distinct sets, with each set *connate* by their *filaments* or with one of the sets as a *free filament*.

*diaphragm* – A dividing membrane or partition; a feature of *chambered pith*.

*dichasium* – **9** ~ A *cyme* with two lateral *axes*.

*dichotomous* – **9** ~ Forking regularly in two directions.

*dicot* – Angiosperm with two *cotyledons*.

*didynamous* – Having four *stamens* in two pairs of different lengths.

*diffuse* – Sparsely disposed.

*digitate* – **2** ~ Typically referring to a *compound leaf* in which the *leaflets* originate from a common point at the apex of a *petiole*; also said of similarly disposed *inflorescences*.

*dilated* – Expanded or enlarged.

*dimorphic* – Having two forms.

*dioecious* – Pertaining to plants, individuals of which bear either *staminate* or *pistillate flowers*, but not both.

*diploid* – With the full complement of chromosomal content.

*disarticulate* – To separate.

*disc* – **11, 12** ~ The central portion of a *capitate inflorescence* or the *receptacle* of such an *inflorescence*; a structure formed by the coalescence of *stigmas* as in the Papaveraceae; the development of the *receptacle* at or around the base of the *petals*, as in Acer and Euonymus.

*disc floret* – **11** ~ Flowers with tubular, usually *actinomorphic corollas* in the Asteraceae.

*discoïd* – In reference to the Asteraceae, a *head* that bears no *ligulate florets*.

*dissected* – Cut or divided into narrow *segments*.

*distal* – 2 ~ The direction or point away from the base or point of attachment.  
*distichous* – 2 ~ Arranged in two vertical series; 2-ranked.  
*distigmatic* – Bearing two *stigmas*.  
*distinct* – Separate and usually evident.  
*dithecal* – Said of an *anther* bearing two *thecae*.  
*divaricate* – Widely spreading or *divergent*.  
*divergent* – 2 ~ Directed away from an *axis*.  
*divided* – Cut or lobed to the *midrib*.  
*dorsal* – Relating to the back or outer surface of an organ.  
*downy* – Covered with soft hair.  
*drupe* – 13 ~ A typically 1-locular, *fleshy* or pulpy *fruit* with a hard or stony *endocarp*.  
*drupelet* – 13 ~ A small *drupe*.  
*dulotic* – A word that describes a slave-making species of ant (e.g. in the genus *Polyergus*) that captures workers and brood of other ant species during nest-raiding forays.  
*dune* – A mound or ridge of coarse to fine-textured sediment shaped by wind.

## E

*e-* – Prefix, meaning without or not.  
*eccentric* – Off-center, 1-sided.  
*echinate* – 6 ~ Bearing stout, often bluntish *spines* or *prickles*.  
*edaphic* – In reference to soil.  
*elaiophore* – An oil-secreting *floral gland* or *trichome*.  
*elaiosome* – 13 ~ A usually fleshy, protein and lipid-rich *appendage* on a *seed* or *fruit*.  
*elastically* – Said of *fruits* that *dehisce* and eject, often forcibly, their *seeds*.  
*elevated* – Raised, as a ridge; extending beyond.  
*ellipsoid* – Solid, but with an elliptical outline.  
*elliptic* – 3 ~ An elongate shape with curved lines, broadest near the middle.  
*emarginate* – 5 ~ With a shallow notch at the tip; similar to *retuse*.  
*embryo* – Incipient plant within the *seed*.  
*emergent* – Pertaining to an *aquatic* plant that extends, at least partly, out from the water.  
*emersed* – Extending above the surface of the water.  
*endemic* – Said of an organism, the geographic range of which is relatively small.  
*endocarp* – Inner layer of the *pericarp*.  
*endosperm* – In a *seed*, the reserve food stored around or next to the *embryo*.  
*ensiform* – Sword-shaped.  
*entire* – 4 ~ With margins that are neither *crenate*, *serrate*, or *dentate*.  
*Entisol* – A taxonomic order of soils with little or no *horizon* development, such as one formed in *eolian* sand or affected by urbanization.  
*entomophilous* – Said of a *flower* *pollinated* by insects.  
*eolian* – As it relates to sediments carried and deposited by wind.  
*ephemeral* – Said of plants that last for a very short period of time.  
*epidermis* – The superficial layer of cells.  
*epigynous* – 10 ~ A flower with the *calyx* situated on the summit of the *ovary*.  
*epipedon* – A soil *horizon* at or near the surface.  
*epizoochory* – The dispersal of *seeds* or *fruits*, usually ones with *spines* or stiff hairs, on the outer surface of animals, such as on or in the fur of mammals.

*equitant* – 2 ~ Pertaining to the 2-ranked arrangement of usually *conduplicate* leaves; overlapping in two *ranks*.

*erect* – 1 ~ Upright.

*erineum* – A felt-like growth of hairs from the *epidermis*, the exaggerated production of which is stimulated by a mite.

*erose* – 4 ~ Pertaining to margins that appear unevenly cut or incised, as if eroded.

*esculent* – Edible.

*evanescent* – Said of tissues that disappear in time; fast-fading.

*even-pinnate* – 2 ~ *Pinnately compound* without a *terminal leaflet*.

*evergreen* – Sustaining green foliage throughout the year.

*ex-* – Away from; out from.

*excurrent* – Usually in reference to *veins* and *nerves* that run beyond the margin of an organ from where it originates, often as an *awn* or *bristle*.

*exfoliating* – Loosely shedding in thin or stringy layers.

*exocarp* – Outer layer of the *pericarp*.

*expressed* – Elevated above a surface; compare with *impressed*.

*exserted* – Prolonged beyond the rim of an enveloping or confining structure.

*exstipulate* – Without *stipules*.

*extrafloral nectary* – An apparent or obscure *gland* on a plant removed from a *flower*, such as on a *stem* or *leaf*, and exuding a fluid or *nectar*.

*extrorse* – Directed or faced outwardly.

*exudate* – A substance excreted.

## F

*faceted* – With one or more planar surfaces.

*falcate* – 3 ~ Sickle-shaped; slenderly curved and tapering to a usually sharp tip, after the manner of a hawk's beak.

*falls* – Of iris flowers, the outer whorl or series of *perianth* parts, often *flexuous* and broader than ones of the inner series.

*farinose* – 6 ~ Resembling farina; typically used to describe the white-mealy, strongly modified *hairs* in some species in the *Chenopodiaceae*.

*fascicle* – A cluster or bundle, often originating in an *axil*.

*fasciculate* – 2 ~ Bearing *fascicles*.

*fastigate* – Stiffly erect; neither *divaricate* nor *divergent*.

*ferruginous* – Rust-colored.

*fertile* – 8 ~ Capable of bearing mature *seeds* and/or viable *pollen*.

*fertilized* – The union of a sperm and egg.

*fetid* – With a disagreeable odor.

*fibrillose* – Beset or provided with numerous fine fibers.

*fibrous* – 1 ~ In reference to a much branched *root* system of relatively fine, short-lived *roots*.

*fiddlehead* – 8 ~ In ferns, the *circinate* fronds.

*filament* – 10, 14 ~ *Anther*-bearing stalk of a *stamen*.

*filiform* – 8 ~ Thread-like, filamentous.

*fimbriate* – 8 ~ Fringed.

*fimbriolate* – Minutely fringed.

*fistulose* – 8 ~ Hollow, often pertaining to *stems* with hollow centers.

*flabelliform* – Fan-like.

*flaccid* – Soft, slack, or limp.  
*flagellate* – Characterized by slender *runners*.  
*flange* – A projecting rim or edge.  
*fleshy* – Thick and succulent.  
*flexuous* – Flexible; easily bent.  
*floccose* – **6** ~ Beset with tangled or cobwebby hairs.  
*floral* – In reference to *flowers* or *inflorescences*.  
*floral constancy* – The fidelity of an insect, during a foraging bout, to regularly visit flowers of a particular plant species.  
*floret* – **11, 14** ~ A single flower, usually small and one of several to many in a cluster; the *lemma* and *palea* together in a grass *spikelet*.  
*floricane* – The second-year flowering cane of the genus *Rubus*.  
*floriferous* – Bearing *flowers*.  
*flower* – The reproductive organ of a plant that bears *stamens* and/or *pistils*.  
*fluted* – With a parallel series of grooves.  
*foliaceous* – Leafy; *leaf*-like.  
*foliar* – Pertaining to the *leaves*.  
*-foliate* – A disposition of the *leaves*.  
*-foliolate* – A disposition of the *leaflets*.  
*follicle* – **13** ~ A dry *fruit* that consists of a single *carpel* that *dehiscence* along one *suture*.  
*forb* – Non-*woody*, non-grass-like plant.  
*-form* – Meaning alike or resembling.  
*forma* – An *infraspecific* taxonomic entity, usually involving simple or single phenotypic traits that appear spontaneously within a population of a species; an example is flower color.  
*foveolate* – Bearing small pits or depressions.  
*free* – Not united, usually in reference to *sepals* and *petals*.  
*free-central* – **10** ~ A form of *axile placentation* where the *axis* is not connected to the *ovary* walls.  
*friable* – Easily crumbled; fragile.  
*fringed* – Pertaining to margins with *bristles* or *cilia*.  
*frond* – **8** ~ The *leaf*-like *blade* of a fern.  
*frondose* – Leafy.  
*fruit* – **13** ~ Ripened ovary, the structure that bears the mature seed.  
*fruticose* – Shrubby or *shrub*-like, often *woody* in part.  
*fugacious* – Falling away early.  
*fulvous* – Tawny; dull yellow-brown.  
*funnelform* – **12** ~ Shaped like a funnel.  
*furcate* – Forked.  
*fuscous* – Dark, gray-brown.  
*fusiform* – Spindle-shaped, tapering from the middle toward both ends.

## G

*galeate* – **12** ~ Hood-like; helmet-shaped.  
*gall* – An abnormal growth on a plant induced by an insect, but also caused by arachnids, bacteria, fungi, and other organisms.  
*gamete* – A *haploid* reproductive cell that bears half of the chromosomal complement of an organism.  
*gametophyte* – *Thallus* that produces gametes.

*gamosepalous* – With calyx lobes united.  
*gaster* – See abdomen.  
*geniculate* – Knee-like; usually in reference to an abrupt bend at the node of a stem or culm, or a dramatic bend in a grass *awn*.  
*gibbous* – **12** ~ Swollen or protuberant on one side.  
*glabrate* – Nearly without hairs.  
*glabrescent* – Becoming hairless.  
*glabrous* – Hairless.  
*gland* – A *sessile* or stalked structure that can secrete a fluid.  
*glandular* – **6** ~ Bearing *glands*.  
*glaucous* – Somewhat *glaucous*.  
*glaucous* – Covered by or imbued with a white or pale-bluish, often waxy *bloom*.  
*globose* – Spherical; globe-like.  
*globular* – *Globose*.  
*glochidiate* – **7** ~ Said of *bristles* barbed at the tip.  
*glomerate* – Tightly clustered, usually in reference to compact clusters of short-stalked *flowers*.  
*glomerulate* – Minutely *glomerate*.  
*glomerule* – **9** ~ A small cluster, commonly a subunit within an *inflorescence*.  
*glume* – **14** ~ The lowest one or two empty *scales* that *subtend* the usually fertile *scales*, most commonly applied in the Poaceae.  
*glutinous* – With sticky exudates or secretions.  
*grain* – The fruit of most grasses—a *caryopsis*; a single unit of pollen.  
*granular* – Appearing to consist of tiny grains, like sand.  
*grit cells* – The hard, almost stony cells found in some *fleshy* fruits, especially pears.  
*gymnosperm* – Seed-bearing plant in which the *ovule* is borne on an open *scale*, not embedded in an *ovary*.  
*gynecandrous* – With *pistillate flowers* situated above the *staminate* ones in the same *inflorescence*. Compare with *androgynous*.  
*gynobase* – An enlargement or enhancement of the tissue beneath the *ovary*.  
*gynoecium* – **10, 14** ~ The pistil or collective group of pistils of a flower; female portions of the flower as a whole.  
*gynostegium* – **11** ~ In the Asclepiadaceae, a complex structure formed by the fusion of the *stamens*, *styles*, and *stigmas*.

## H

*halophilic* – With a predilection for *saline* soils.  
*halophyte* – A plant that grows in *saline* soils.  
*haploid* – With half the full component of the chromosomal content.  
*hastate* – **3, 5** ~ Resembling an arrowhead, particularly with respect to the lobed, typically flaring, *basal* portion of a *leaf*.  
*hastiform* – Somewhat *hastate*.  
*haustorium* – In parasitic plants, a specialized outgrowth of the *stem* or *root* that accesses nutrients from a host plant—as in the dodders.  
*head* – **9, 11** ~ A dense, compact cluster of mostly *sessile flowers*.  
*helmet* – A hood-shaped organ, usually a *petal*, best exemplified in the genus *Aconitum*.  
*hemiparasite* – A parasitic plant that is photosynthetic but derives nutrients from a host plant.  
*herb* – A non-*woody*, non-grass plant; plant with aromatic or medicinal essences or properties; *forb*.  
*herbaceous* – Not *woody*.

*herbage* – In reference to green *leaves* and non-*woody shoots*.  
*herpetofauna* – The amphibians and reptiles of a habitat or region.  
*heterostylic* – Describing *styles* of different lengths in a *corolla*.  
*hexaploid* – With six replicates of the chromosome set.  
*hilum* – The scar or point of attachment of a *seed*.  
*hip* – Fruit exemplified by the genus *Rosa*.  
*hirsute* – **6** ~ Beset with stiff or coarse, usually straight hairs.  
*hirsutulous* – Minutely *hirsute*.  
*hirtellous* – **6** ~ Beset with short, stiff hairs.  
*hispid* – **6** ~ Coarsely *hirsute* or *bristly* hairy.  
*hispidulous* – Minutely *hispid*.  
*Histosol* – A taxonomic order of dark-hued, organic-rich soils, consisting of *peat* and/or *muck*, that have accumulated in wet environments and are composed of partially to highly decomposed fecal matter of aquatic organisms and/or plant matter.  
*hoary* – Clothed with close, fine, usually grayish or whitish hairs.  
*Holocene* – Era of time that includes the entire post-glacial period.  
*hollow* – **7** ~ Generally, the central portion of a *twig* or *stem* that is empty of *pith*.  
*hood* – **11, 12** ~ Specifically, the part of an *Asclepias* *flower* in which the *filaments* are greatly modified into *petal*-like, nectariferous, hood-like organs; in general, an organ that is arched or concave.  
*horizon* – In a soil, a zone that possesses unique characteristics and properties—such as organic matter content, color, and texture— and which differs from adjacent soil *horizons*.  
*horn* – **11, 12** ~ An incurved *appendage* often present in the *hood* of an *Asclepias* *flower*.  
*hyaline* – Transparent or translucent.  
*hybrid* – The offspring of parents of two species, generally from the same genus.  
*hypanthium* – **10** ~ Floral *tube* formed by the fusion of *sepals*, *petals*, and *stamens*.  
*hypogynium* – A disc-like structure that subtends an *ovary* in the genus *Scleria*.  
*hypogynous* – **10** ~ *Flower* with the *calyx* situated below the *ovary*.

## I

*imbricate* – **2, 7** ~ A general term describing one organ or series of organs overlapping another organ or series of organs, like roof shingles.  
*immaculate* – Without spots.  
*immersed* – Growing beneath the surface of the water.  
*imperfect* – In reference to a *flower* bearing one set of sex organs, either an *androecium* or a *gynoecium*, but not both.  
*impressed* – Not flush with a surface, sunken in; compare with *expressed*.  
*Inceptisol* – A taxonomic order of soils with weak *horizon* development.  
*incised* – **4** ~ Deeply cut or *divided*.  
*included* – Contained within, usually in reference to *stamens*, *styles*, or *capsules* that do not surpass or exceed the rim or lip of a *calyx* or *corolla*.  
*incurved* – Curled or directed inward, such as hairs, the tips curving toward the *stem* or surface of an organ.  
*indehiscent* – Describing *fruits* not opening at maturity.  
*indeterminate* – **9** ~ In reference to an *inflorescence* in which the *terminal flowers* open last; compare with *determinate*.  
*indument* – A covering of hairs or *scales*.  
*indurated* – Hardened.

*indusium* – 8 ~ In ferns, the delicate flap or covering connected to the *sorus*.

*inferior* – 10 ~ In reference to an organ that appears subordinate to or lower than another similar organ; in reference to an *ovary*, at least the sides of which are *adnate* to the *hypanthium*.

*infertile* – Sterile.

*inflated* – Dilated, bladder-like.

*inflexed* – Bent inward.

*inflorescence* – The discrete flowering *array* or portion of a plant; a *flower* cluster.

*infraspecific* – Pertaining to any taxonomic element below the rank of species.

*infrastipular* – In reference to *prickles* situated at the *node*, as in the genus *Rosa*.

*infructescence* – The fruiting *inflorescence*.

*inrolled* – Said of *leaf* margins rolled inward toward the *midrib*.

*insipid* – Without taste or flavor.

*internode* – 7, 14 ~ That portion of the *stem* other than the *node*; the distance between two *nodes*.

*interspecific* – Taxonomic entities derived from hybridization between two species.

*interspersed* – Scattered within or among.

*interstitial* – The space between or among two or more discrete structures; in the Rosaceae, in reference to the small *leaflets* between two larger *leaflets* on the *rachis*.

*intrastaminal* – Among the *stamens*.

*introduced* – Not native, *adventive*.

*introrse* – Turned inward or toward the *axis*.

*invaginated* – Folded inward; *cleft-like*.

*involucel* – A secondary *involucre*, subtending an *umbellet* in the Apiaceae.

*involucre* – A *whorl* or *imbricated* series of *bracts*, typically *subtending* a *flower* cluster or a solitary *flower*; often appearing *calyx-like*.

*involute* – 4 ~ Describing a *leaf* margin rolled on the *adaxial* surface toward the *midrib* or central *axis*; compare with *revolute*.

*irregular* – In reference to a *calyx* or *corolla* being bilaterally *symmetrical* and capable of being *divided* into two equal halves along only one plane; compare with *regular*.

*isodiametric* – Said of shapes with sides or diameters of nearly equal lengths.

## J

*jaculator* – That which throws or casts.

*jointed* – With *nodes* or areas that appear articulated.

## K

*keel* – 11 ~ A longitudinal fold or ridge; in the Fabaceae, the two *anterior*, usually united, *petals* of a *papilionaceous flower* that often encloses the *stamens* and *pistil*.

*klint* – An exhumed or exposed ancient coral reef (pl. *klintar*).

## L

*lacerate* – 4 ~ Unevenly cut or incised.

*lacinate* – 4 ~ Deeply and sharply cut into slender *segments*.

*lacuna* – A defined space, usually circumscribed by *veinlets*.

*lamella* – A thin flat plate or laterally flattened ridge.

*lamina* – 7, 14 ~ A *blade-like* surface.

*lanate* – 6 ~ Densely woolly-*pubescent*.



*lanceolate* – **3** ~ Lance-shaped, broadest below the middle, long-tapering above the middle, and several times longer than wide.  
*lanuginose* – Woolly or cottony.  
*lateral* – **5** ~ Pertaining to the sides, or positions of *veins*  
*latex* – The milky or colored juice of some plants.  
*leaf* – **2, 3, 4, 5, 7, 8, 14** ~ A *foliar* organ associated with an *axillary bud*.  
*leaf scar* – **7** ~ Marking on a *twig* formed from the *abscission* of the *leaf*, usually revealing the pattern of *vascular bundles* in the *leaf trace*.  
*leaf trace* – A strand of *vascular* tissue that runs between the *leaf* and the *stem*.  
*leaflet* – **2, 7** ~ *Leaf-like segment* of a *compound leaf*, not associated with an *axillary bud*.  
*legume* – **13** ~ A fruit in the Fabaceae and related families, produced from a 1-celled *ovary*, and typically splitting along both *sutures*, as in the *pod* of a pea.  
*lemma* – **14** ~ The lowermost of the two *scales* that form the *floret* in most grass *spikelets*; compare with *palea*.  
*lenticel* – **7** ~ A corky spot on young *bark* that corresponds functionally to a stomate on a *leaf*.  
*lenticular* – Lens-shaped; 2-sided with the faces *convex*.  
*lepidote* – **6** ~ Beset with small *scurfy scales*.  
*ligneous* – With *lignin*.  
*lignin* – A complex polymerized carbohydrate that fills and stiffens the walls of xylem cells in *woody* plants.  
*ligulate* – **12** ~ Bearing a *ligule*.  
*ligule* – **8, 11, 14** ~ In the Asteraceae, pertaining to the dilated or flattened, spreading *limb* of a *ray floret*; in other families, such as the Poaceae, an extension, often *scarious* or hairy, at the summit of a *leaf sheath*.  
*limb* – **12** ~ The expanded portion of a *corolla* above the *throat*; the expanded portion of any *petal*.  
*linear* – **3, 8** ~ Long and narrow, with nearly or quite parallel margins.  
*lip* – **11** ~ Referring to either the upper or lower lip of a *bilabiate corolla*; the principal, seemingly lower *petal* in the Orchidaceae.  
*lobate* – Possessing *lobes* or with a lobed margin.  
*lobe* – **4, 10** ~ Any segment or division, particularly if blunt, but more developed than a *tooth*.  
*lobulate* – A diminutive of *lobate*.  
*locular* – Relating to *locules*.  
*locule* – **13** ~ A discriminate cavity or space within an *ovary*, *fruit*, or *theca*.  
*loculicidal* – **13** ~ Pertaining to a *capsule* that *dehisces* along the *dorsal suture* of each *locule*.  
*locus* – Place; location.  
*loment* – **13** ~ Specifically applied to the series of 1-seeded *articles* of a *fruit* in the genera *Desmodium* and *Hylodesmum*.  
*lustrous* – Shiny.  
*lyrate* – **3** ~ *Pinnately lobed*, the *terminal* one typically noticeably larger than the reduced *lateral* ones.

## M

*macula* – A spot.  
*maculate* – Spotted.  
*malodorous* – Foul-smelling; fetid.  
*malpighian* – Describing a hair attached at its middle and typically *appressed* to a surface.  
*marcescent* – Withering but persistent, usually remaining green.  
*margin* – **4** ~ Generally, the edge of a planar organ.  
*marginal* – **10** ~ With regard to the *margin*.  
*marly* – Describing calcium carbonate accretions.

*mealy* – With the consistency of meal; *farinose*.

*megaspore* – **8** ~ The larger type of *haploid spore* (when two sizes are present) that gives rise to the female *gametophyte*; see *microspore*.

*megasporophyll* – Bract that subtends a *megaspore*.

*membranaceous* – **14** ~ Membrane-like; very thin, flimsy, and often more or less translucent.

*mericarp* – The discriminate unit of a *schizocarp*.

*meristem* – Undifferentiated tissue from which differentiated cells arise.

*-merous* – A suffix that pertains to the discriminate portions into which a floral organ or series of organs can be divided; for example, a *flower* with 5 *sepals*, 10 *petals*, and 20 *stamens* can be said to be *5-merous*.

*mesic* – Describing a *microclimate* or plant community in which there is a moderate amount of moisture.

*mesophytic* – Referring to plants or plant communities that grow under *mesic* conditions.

*microclimate* – A local atmospheric or *edaphic* condition that differs from the larger ambient one.

*microspore* – **8** ~ *Haploid spore* that gives rise to the male *gametophyte*, generally smaller than the *megaspore*.

*microsporophyll* – Bract that subtends a *microspore*.

*midnerve* – **5** ~ the central or principal *vein* of a *foliar* or *bracteal* organ, or a *sepal* or *petal*.

*midrib* – *Midnerve*.

*midvein* – **5, 7** ~ *Midnerve*.

*milky* – Like a thick white juice or *latex*.

*minerotrophic* – Describing a water source characterized by the presence of calcium and magnesium *carbonates*.

*mollic epipedon* – A term used to describe a dark-hued surface *horizon* of a mineral soil that is high in *organic matter* and *cation exchange capacity*.

*Mollisol* – A taxonomic order of dark-hued, usually *base-rich*, organic-rich mineral soils typically formed under deep-rooted grassland or prairie vegetation.

*monadelphous* – Describing *stamens* united by their *filaments* into a *tube* or *column*.

*moniliform* – Appearing as a string of beads; slenderly cylindrical, with contractions at regular intervals.

*monocot* – *Angiosperm* having only one *cotyledon*.

*monoecious* – Pertaining to plants, individuals of which bear both *staminate* and *pistillate flowers*, but not necessarily *perfect flowers*.

*monothecal* – Describing an *anther* with one *theca* (e.g., *Büchnera*).

*mottled* – Covered in part with spots or blotches of a different color than the surrounding surface area.

*muck* – An organic soil material or highly decomposed peat, the sapric component, that accumulates in wet, anaerobic environments; see also *Histosol*.

*mucro* – An abruptly shortened tip.

*mucronate* – **5** ~ With a short, abrupt tip.

*mucronulate* – Minutely *mucronate*.

*muricate* – **6** ~ Beset with hard, often sharp, *tubercles*.

*mycoheterotrophic* – An achlorophyllous plant that obtains all of its nutrients from a *symbiotic* association with a *mycorrhizal* fungus, the latter of which receives its nutrition from an autotrophic vascular plant.

*mycorrhizal* – Describing the *symbiotic* relationship between a root-inhabiting fungus and a *mycotrophic* plant.

*mycotrophic* – A plant that acquires, at least a portion of its carbon, water, and/or nutrients, through a *symbiotic* association with a fungus.

*myrmecochory* – Dispersal of *seeds* by ants.

## N

*n.d.* – Abbreviation for no date.

*naked bud* – **7** ~ A *bud* formed without *scales*.

*native* – Inherent and original to a specific geographic area prior to European settlement.

*nectar* – A sweet substance typically produced by flowers.

*nectar gland* – **11** ~ *Gland* that produces *nectar*; *nectary*.

*nectary* – **11** ~ A *gland* or *glandular* area that bears a fluid or *nectar*.

*nectariferous* – Bearing *nectar*.

*nerve* – *Vein*.

*nigrescent* – Becoming black or blackish.

*nodding* – Hanging on a bent *peduncle* or *pedicel*.

*node* – **14** ~ The point along a *stem* that gives rise to *leaves*, *branches*, or *inflorescences*.

*nodose* – With knotty or knobby swellings.

*nodulose* – Provided with little knots or knobs.

*nototribic* – Pollen deposition on the dorsum of an insect when it visits a flower.

*nut* – **13** ~ A hard, *indehiscent*, 1-seeded *fruit*, typically with an outer shell.

*nutlet* – **13** ~ A small *nut* or *achene*, typically 1-seeded, usually lacking a specific outer shell.

## O

*O horizon* – An organic soil *horizon*, usually thin in *Alfisols*, at or near the surface.

*obconic* – Inversely *conical*, with the narrow end down.

*obcordate* – **3** ~ In reference to *leaves* or *petals* that are heart-shaped at the tip and taper to a wedge-shaped base.

*oblanceolate* – **3** ~ Several times longer than wide, but widest beyond the middle and tapering to the base.

*obligate* – Restricted to.

*oblique* – **5** ~ Slanting or unequally sided.

*oblong* – **3** ~ Several times longer than wide and with nearly or quite parallel sides.

*obovate* – **3** ~ Inversely *ovate*, broadest beyond the middle.

*obovoid* – Having the form of an egg or broadest distally.

*obsolete* – Rudimentary; not evident.

*obtuse* – **5** ~ Blunt or rounded.

*ochroleucous* – Yellowish-white.

*ocrea* – **7** ~ In the Polygonaceae, the sheathing *stipules* at the *nodes* along the *stems*.

*ocreolae* – **7** ~ In the Polygonaceae, the sheathing *stipules* at the *nodes* of the *inflorescence*.

*odd-pinnate* – **2** ~ *Pinnately compound* with a *terminal leaflet*.

*odoriferous* – Smelly.

*offshoot* – Proliferous *branch* from a *stem*.

*oligolectic* – Used in relation to bees who restrict their foraging of nectar and/or pollen to a narrow array of related plants; compare to *polylectic*.

*olivaceous* – Having an olive-green color.

*opaque* – Dull; neither shiny nor translucent.

*opposite* – **2** ~ Arranged in pairs along an *axis*, not *alternate*.

*orbicular* – **3** ~ Circular in outline.

*organic matter* – Organic compounds derived from dead plants and animals that in aggregate has high water holding capacity and nutrient retention in soils.

*outwash* – Water-sorted sediments, such as sand and gravel.

*oval* – **3** ~ Broadly *elliptical*.

*ovary* – **10, 11, 14** ~ That portion of the *pistil* that contains the *ovules*.

*ovate* – **3** ~ Egg-shaped; broadest below the middle.

*ovoid* – A solid with an *ovate* outline.

*ovule* – The body that, after fertilization, becomes the *seed*.

## P

*palate* – **12** ~ A rounded projection on the lower *lip* of some *irregular corollas*, often closing the *throat*.

*pale* – A receptacular *bract subtending a floret* in the Asteraceae; see also *chaff*.

*palea* – **14** ~ The uppermost of the two *scales* that form the *floret* in a grass *spikelet* (often obscure or hidden within the *lemma*).

*palmate* – **2, 5** ~ *Radiately lobed or divided*, the *axes* of the individual *segments* originating at or near a common point.

*paludal* – Pertaining to marsh plants and communities.

*pandurate* – Fiddle-shaped.

*panicle* – **9, 14** ~ An *inflorescence* composed of two or more *racemes* or *racemiform corymbs*.

*paniculate* – Bearing *panicles*.

*paniculiform* – Having the general form of a *panicle*.

*pannate* – **6** ~ *Pannose*.

*pannose* – **6** ~ Appearing felt-like.

*papilionaceous* – **11, 12** ~ Butterfly-like; in the Fabaceae particularly, having a *corolla* composed of a *standard*, *keel*, and two *wings*.

*papilla* – A minute, nipple-shaped projection.

*papillate* – **6** ~ Bearing *papillae*; *warty* or *tuberculate*.

*papillose* – *Papillate*.

*pappus* – **11, 13** ~ A modification of the *calyx*, particularly in the Asteraceae, such that the *segments* are manifest as a low *crown*, a ring of *scales*, or fine hairs or *bristles*.

*papule* – A single *wart* or *tubercle*.

*parallel* – **5** ~ Running side-by-side, from the base to the tip; in reference to the *leaves* of *monocots* where, instead of a network, the observable *veins* are *parallel* to one another and the *midrib*.

*parasite* – An organism that derives nutrients or resources from another organism (host), sometimes to the detriment of the latter.

*parcifrond* – Evocative of a *primocane*, a *leafy, sterile shoot* produced from a *floricane*.

*parenchymatous* – Describing tissue composed of thin-walled cells.

*parietal* – **10** ~ Said of *ovules* borne on the inner walls of the *ovary*.

*patina* – A fine crust or film.

*peat* – An organic soil material that consists of partially decomposed organic residues that are identifiable, such as plant parts (e.g., *stems* and *leaves*; the fibric component), which material accumulates in wet, anaerobic environments; see *Histosols* and compare with *muck*.

*pectinate* – *Fringed* or *dissected* in comb-like fashion.

*pedicel* – **11, 14** ~ The *stalk* of a single *flower* in a cluster.

*pedicellate* – **9** ~ Having a *pedicel*.

*peduncle* – **8** ~ Characteristically referring to the second *internode* below a *flower*, but generally applied to any primary *stalk* that supports a *head* or *flower cluster*; *scape*.

*pedunculate* – Having a *peduncle*.

*pellucid* – Clear; transparent.

*peltate* – **5, 8** ~ A flat or flattish structure borne on a *stalk* that is attached to the lower surface rather than the base or the margin.

*pendulous* – Drooping.

*pepo* – **13** ~ The specialized *fruit* in the gourd family.

*perennial* – **1** ~ Pertaining to a *herbaceous* plant that lives for more than two years through the production of subterranean *rhizomes*, *basal offshoots*, *bulbs*, or *corms*.

*perfect* – Pertaining to *flowers* that contain both *stamens* and *pistils*.

*perfoliate* – **5** ~ A condition in which the *stem* appears to pass through the *leaf*.

*perianth* – **10** ~ Pertaining to the *floral* series or *sepals*, *petals*, or both.

*pericarp* – The wall of the mature *ovary*.

*perigynium* – **14** ~ In reference to the often *inflated sac* that encloses the *achene* in the genus *Carex*.

*perigynous* – **10** ~ With the *perianth* surrounding the *ovary*.

*persistent* – **14** ~ Remaining attached, especially after withering; not *caducous*.

*petal* – **10, 11** ~ A *segment* of the *corolla*.

*petaloid* – Colored like or resembling a *petal*.

*petiolar* – In reference to a *petiole*.

*petiolate* – **2** ~ Having a *petiole*.

*petiole* – **2, 7** ~ The *stalk* of a leaf.

*petiolulate* – With *petiolules*.

*petiolule* – **2, 7** ~ The *stalk* of a *leaflet*.

*phyllary* – **11** ~ An *involucral bract* in the *Asteraceae*.

*phyllodium* – A somewhat *dilated leaf stalk* having the form of and serving as a *leaf blade*.

*phytotelmata* (*phytotelma*, sing.) – The plural form for water-filled cavities of plants that may provide a habitat for *aquatic organisms*.

*pilose* – **6** ~ With long soft hairs.

*pin* – A *heterostylic corolla* that has a long *style* and short *stamens*.

*pinna* – **8** ~ One of the principal divisions in a *pinnate* or *pinnately compound leaf* or *frond*.

*pinnate* – **2, 5** ~ In reference to a *foliar* structure that is *compound* or deeply *divided*, the principal divisions arranged along each side of a common *axis*.

*pinnatifid* – **4** ~ Incompletely *pinnate*, the *clefts* between the *segments* not reaching the *axis*.

*pinnule* – **8** ~ One of the principal divisions of a *pinna*.

*pistil* – **10** ~ The organ that comprises the *ovary*, *style* (when present), and *stigma*; *gynoecium*.

*pistillate* – **11, 14** ~ In reference to plants, *inflorescences*, or flowers that bear *pistils*, usually those that bear no *stamens*; compare with *staminate*.

*pistillode* – A *sterile pistil* within a *corolla* or *floret* that is *staminate*.

*pith* – **7** ~ The *parenchymatous*, often spongy or porous central portions of *stems* and *branchlets*.

*pitted* – Beset with depressions or pits.

*placenta* – The internal portion of the *ovary* that bears the *ovules*.

*plait* – In reference to the folded, often *fringed* membrane between the *corolla lobes*, such as in some genera of the *Gentianaceae*.

*plano-convex* – Similar to *lenticular*, but with one of the faces flat instead of *convex*.

*plicate* – Folded into *plaits*, usually lengthwise, thus similar to *corrugated*.

*plumose* – *Pinnately* branched hairs.

*pneumatophore* – An *emersed root* that enables gas exchange in the genus *Taxodium*.

*Pods* – Certain *seed-bearing capsules*.

*pollen* – Dust-sized *microspores* borne from *anthers*.

*pollinarium* – **11** ~ The unit comprising the *pollinia*, *viscidium* or *corpusculum*, and *stipes* or *translator arms* in the *Orchidaceae* and *Asclepiadaceae*, respectively (pl. *pollinaria*).

*pollination* – Transfer of *pollen* from *anther* to *stigma*.

*pollinium* – **11** ~ A coherent mass of *pollen*, such as in the *Orchidaceae* and *Asclepiadaceae* (pl. *pollinia*).

*polygamous* – Typically in reference to a plant that contains both *perfect* and *imperfect flowers*.

*polylectic* – Used in relation to bees who forage nectar and/or pollen from a diverse array of flowering plants; compare with *oligolectic*.

*polymorphic* – Having a number of various forms.

*polyploid* – With more than a single set of chromosomes.

*pome* – **13** ~ A *fleshy fruit*, such as an apple, formed from an *inferior ovary* with several *locules*.

*pore* – A small opening in an organ.

*poricidal* – **13** ~ *Dehiscence* by means of *pores*.

*posterior* – Opposite of *anterior*.

*prickle* – **7** ~ A sharp *bristle* or *spine*, often with a *dilated* base.

*primary vein* – **7** ~ The principal *vein* from which all others branch.

*primocane* – In *Rubus*, the sterile *cane* of the first year.

*prismatic* – The shape of a prism; angulate with flat sides.

*proboscis* – An elongate mouthpart of some insects, such as butterflies and moths, that is used to suck fluid (pl. proboscides).

*process* – A projection or outgrowth from some parent tissue.

*procumbent* – **1** ~ Trailing or reclining, but not rooting at the *nodes*.

*propagule* – A *vegetative* portion of a plant that can produce a new plant; an organ of *asexual* reproduction.

*prostrate* – Lying flat upon a substrate.

*protandrous* – Condition where the *anthers* *dehisce* before the *stigma(s)* is receptive; compare with *protogynous*.

*protogynous* – Condition where the *stigma(s)* is receptive before the *anthers* *dehisce*; compare with *protandrous*.

*proximal* – **2** ~ At or near the base, the lowermost one to few.

*proximate* – Near.

*pruinose* – Frosty, as if covered with white powder.

*pterotribic* – *Pollen* deposition on the wings of an insect when it visits a *flower*.

*puberulent* – **6** ~ Minutely hairy.

*pubescent* – **6** ~ Hairy.

*pulverulent* – **6** ~ Appearing powdery or mealy.

*pulvinus* – **14** ~ A swelling or enlargement, typically in the *axil* of a *branch* in a grass *inflorescence*.

*punctate* – Dotted, particularly with dark or translucent spots or *glands*.

*puncticulate* – Minutely *punctate*.

*pungent* – Very sharp; acrid to the taste or smell.

*pustular* – Bearing blisters or pustules.

*pyramidal* – Broadest at the base, tapering *apically*.

*pyrene* – The *nutlet* of a *drupe*, such as the *seed* and bony *endocarp* of a cherry.

*pyriform* – Pear-shaped.

## Q

*quadrangular* – **7** ~ Four-angled.

*quadrate* – Four-sided.

*quickly* – Abruptly.

## R

*raceme* – **9** ~ A simple *inflorescence* in which the *flowers* are *pedicellate* and arranged singly along an elongate *axis*.

*racemiform* – Resembling a *raceme* or *raceme*-like.

*racemose* – Having flowers in a *raceme*.

*rachilla* – 8, 14 ~ A secondary *rachis*.

*rachis* – 2, 8 ~ The principal *axis* of an *inflorescence* or *compound leaf* (pl. *rachides*).

*radial* – 10 ~ With reference to the disposition of *perianth* parts in an *actinomorphic flower*.

*radiate* – 12 ~ Spreading in all directions.

*ranked* – Ordered in a series, usually combined with a number, such as 2-ranked.

*ray* – In the Asteraceae, a strap-shaped *ligulate flower*; in the Apiaceae, one of the principal *branches* of an *umbel*.

*ray floret* – 11 ~ *Flowers* in the Asteraceae that bear *ligulate rays*.

*raylet* – A secondary *ray* in an *umbel*.

*receptacle* – An enlarged or elongated end of a *pedicel*, *peduncle*, or *scape* on which some or all of the *flower* parts are borne.

*receptacular* – In reference to the *receptacle*.

*recurved* – Directed backward or downward.

*reflexed* – Abruptly turned or bent downward.

*regular* – *Radially symmetrical* and capable of being bisected into two or more similar planes; *actinomorphic*; compare with *irregular*.

*remontant* – The blooming of a plant more than once during a growing season.

*remote* – Borne distantly or relatively far apart.

*reniform* – 3, 8 ~ Kidney-shaped.

*repand* – Typically with a shallowly, unevenly *lobed* or *sinuate* margin.

*repent* – 1 ~ *Prostrate*, *creeping* along the ground, typically applied to plants that root at the *nodes*.

*resin* – A thick, often sticky sap.

*resiniferous* – Bearing *resin*.

*resinous* – 6 ~ Appearing to secrete or exude *resin*.

*resupinate* – Literally, oriented upside down.

*reticulate* – 5 ~ Forming a network of interconnecting *veins*.

*retrorse* – 6 ~ Directed backward or downward.

*retuse* – 5 ~ Notched slightly, usually at an *obtuse apex*.

*revolute* – 4 ~ Describing a *leaf* or *sepal* margin rolled on the *abaxial* surface toward the central *axis*; compare with *involute*.

*rhypidiolate* – In the form of a *rhypidium*.

*rhypidium* – *Cymiform* or subumbellate fan-shaped *inflorescence*.

*rhizomatous* – Bearing *rhizomes*.

*rhizome* – 1 ~ An underground *stem*, with *nodes* and short to elongate *internodes*.

*rhombic* – A four-sided, typically obliquely angled shape.

*riparian* – Associated with rivers and streams.

*root* – A usually subterranean portion of a plant, without *nodes*, *buds*, or *leaves*.

*rooting* – Developing *roots*.

*roseate* – Rose-colored.

*rosette* – In reference to a dense cluster of *basal leaves*, particularly those of winter *annuals* or *biennials*, or to *scapose* plants in which all the *leaves* are *basal*.

*rostellum* – A projecting portion of the *column* in some orchid *flowers*.

*rostrate* – *Beaked*.

*rosulate* – Radially spreading.

*rotate* – 12 ~ Pertaining to *corollas* that are more or less flat and circular or wheel-like in general outline.

*rounded* – 5 ~ Pertaining to a *leaf* base with *arcuate* margins.

*ruderal* – Associated with waste areas.  
*rudimentary* – Poorly developed.  
*rufescent* – Somewhat reddish-brown.  
*rufous* – Reddish-brown.  
*rugose* – Wrinkled.  
*rugulose* – Minutely wrinkled.  
*runcinate* – **3** ~ Coarsely and sharply cut or *incised*, the principal divisions typically directed backward, such as the leaves of *Taraxacum*.  
*runner* – Proliferating from elongate *rhizomes* or *stolons*.

## S

*s.n.* – A Latin abbreviation for *sine numero*, meaning without a collection number.  
*sac* – A pouch or bladder.  
*saccate* – **12** ~ Having a *sac*, usually pertaining to a *perianth* segment.  
*sagittate* – **3, 5** ~ Shaped like an arrowhead, usually in reference to leaves in which two *basal lobes* are directed backward or downward.  
*saline* – Salty.  
*saltatory* – Dancing.  
*salverform* – **12** ~ Having a slender *tube* abruptly expanded into a flat *limb*, such as in *Phlox* flowers.  
*samara* – **13** ~ An *indehiscent*, *winged fruit*.  
*sarmentose* – **1** ~ Producing slender, often *prostrate stolons* or creeping *stems*.  
*scaberulous* – Minutely *scabrous*.  
*scabrid* – Slightly roughened.  
*scabridulous* – Minutely *scabrous*.  
*scabrous* – **6** ~ Rough; harsh to the touch.  
*scale* – **8, 14** ~ Generally a thin, sometimes *scarious*, much reduced *leaf*, *bract*, *bractlet*, or *perianth* segment.  
*scalloped* – Describing margins marked by a series of circular or arc-shaped *teeth* or projections.  
*scandent* – Climbing.  
*scape* – **9** ~ A leafless flowering *stem* or one that possesses minute *scale*-like *leaves*.  
*scapose* – Having or appearing to have a *scape*.  
*scarious* – Typically thin, dry, papery, or *membranaceous*; usually not green.  
*schizocarp* – **13** ~ A *pericarp* that splits into two to several 1-seeded portions, termed *mericarps* or *nutlets*.  
*scopa* – A brush-like cluster of hairs that carries *pollen* on a female bee; may be on a leg (hind tibia) or ventral portion of the abdomen or gaster of the bee (pl. *scopae*).  
*scorpioid* – **9** ~ In reference to an *inflorescence* that is coiled from the tip downward, after the fashion of a scorpion's tail.  
*scrotiform* – Shaped like a pouch.  
*scurfy* – **6** ~ Bearing mealy or bran-like granules or flakes.  
*secund* – **9** ~ Arranged or oriented along one side of an *axis*, typically in reference to the *flowers* of an *inflorescence*.  
*seed* – **13** ~ A ripened *ovule*.  
*segment* – One of the units of a *perianth* or *calyx*, or of a *leaf* that is *divided* but not fully *compound*.  
*senescent* – Growing old; aging.  
*sensu lato* – Latin for in the broad sense (s.l.).  
*sensu stricto* – Latin for in the strict sense (s.s.).  
*sepal* – **10, 11** ~ A *segment* of the *calyx*.



*sepaloid* – With the texture of or resembling a *sepal*.

*separate* – **10** ~ Usually referenced to *perianth segments* that are free all the way to the base.

*septate* – With partitions or *septa*.

*septicidal* – **13** ~ In reference to *capsules* that *dehisce* through the *septa* between the *locules*.

*septum* – **13** ~ Any kind of partition or cross wall (pl. *septa*).

*sericeous* – **6** ~ With silky hairs.

*serotinous* – Produced late in the season; late to open; having *cones* that remain closed long after the *seeds* are ripe.

*serrate* – **4** ~ With sharp, typically forward-pointing *teeth*.

*serrulate* – **4** ~ Minutely *serrate*.

*sessile* – **2, 9** ~ Without a *stalk*.

*seta* – A *bristle* (pl. *setae*).

*setaceous* – *Bristle*-like.

*setiform* – Having the shape of a *bristle*.

*setose* – **6** ~ Beset with *bristles*.

*setulose* – Having minute *bristles*.

*sexual* – In reference to plants with fertile *pollen* or *ovules* or both.

*sheath* – **14** ~ A tubular structure effected by the coming together of *leaf* margins around the *stem*.

*shoot* – New plant growth, usually from the *axils* of *rhizomes* or *stems*.

*shrub* – **1** ~ A *woody* plant, typically smaller than a *tree* and characterized by the habit of branching from the *base*, usually with several main *stems*.

*silicle* – **13** ~ A short *silique*.

*silique* – **13** ~ A specialized *capsule* in which a frame-like *placenta* or partition separates the two *valves*.

*simple* – **2, 9** ~ Not compound, a term usually applying to *leaves*; also, in reference to a *stem* without *branches* or modifications.

*sinuate* – **4** ~ Wavy.

*sinus* – **4** ~ A *cleft* or dissection between two *lobes*.

*s.l.* – Latin for *sensu lato*, in the broad sense.

*soboliferous* – Producing shoots or suckers.

*sordid* – Appearing dirty or definitely not white.

*sorus* – **8** ~ A cluster or discrete aggregation of *sporangia*.

*spadix* – **9** ~ An *inflorescence* *spike* typified by a fleshy *axis*.

*spathe* – **9, 11** ~ A *foliaceous* *bract*-like or *sheath*-like structure enclosing or partly enclosing an *inflorescence*.

*spatulate* – **3** ~ Strongly *dilated* or expanded distally; spoon-shaped.

*sphagnaceous* – Of or related to *Sphagnum* moss.

*spicate* – Arranged in or resembling a *spike*.

*spiciform* – *Spike*-like.

*spicule* – A hard point or protuberance, typically on a *leaf* margin.

*spike* – **9, 14** ~ An unbranched *inflorescence* in which the flowers are *sessile* or *subsessile* along an elongate *axis*.

*spikelet* – **14** ~ A secondary or small *spike*; specifically, in the *Poaceae*, the unit composed of one or two *glumes* that *subtend* one to several sets of *lemma* and *palea* combinations.

*spine* – **7** ~ A sharp, stiff, often slender process; a *thorn*.

*spinescent* – Ending in a *spine* or bearing a *spine*.

*spinose* – Having *spines*; spiny

*spinulose* – With minute *spines* or hardened *bristles*.

*spontaneous* – Growing “wild,” without cultivation or purposeful effort on the part of people.

*sporangium* – 8 ~ *Spore*-producing structure.

*spore* – An asexual, typically 1-locular, haploid cell.

*sporocarp* – The “fruit” case of certain flowerless plants that produce *spores*.

*sporophyll* – 8 ~ A foliar organ upon which *sporangia* are produced.

*spur* – 7, 11, 12 ~ An extended *sac* at the base of a corolla; a short *branchlet* with a very compact arrangement of leaf scars.

*squarrose* – Pertaining typically to *perianth segments*, *involucral bracts*, or *phyllaries* that bend outward or downward at the tip.

*s.s* – Latin for *sensu stricto*, in the narrow sense.

*stalk* – The “stem” of any organ such as the *petiole*, *peduncle*, *pedicel*, *filament*, or *stipe*.

*stamen* – 10 ~ *Pollen*-producing unit of the *androecium* composed of an *anther* and *filament*.

*staminal* – In reference to *stamens*.

*staminal column* – 11 ~ Pertains to the *tube* of *connate stamens* that enclose the *style*.

*staminate* – 11, 14 ~ In reference to plants, *inflorescences*, or *flowers* that bear *stamens*, usually those that bear no *pistils*; compare with *pistillate*.

*staminode* – 11 ~ A sterile *stamen* or any structure lacking a functional *anther* but corresponding to a *stamen*.

*standard* – The upper, dilated or expanded *petal* in a *papilionaceous flower*; *banner*.

*stellate* – 6 ~ Star-shaped, usually in reference to hairs that are forked or branched into two to several rays attached at the center.

*stem* – 7 ~ The main *axis* or principal *shoot* of a plant, usually bearing *leaf axils* and complex *vascular bundles*.

*sterile* – 8 ~ Incapable of reproducing *sexually*; also in reference to soil that is poor in nutrients.

*sternotribic* – *Pollen* deposition on the sterna or underside of an insect when it visits a *flower*.

*stigma* – 10, 11, 14 ~ That part of *pistil* receptive to *pollen*.

*stipe* – 8 ~ A small connecting *stalk*; sometimes a small *stalk* that elevates the *pistil* or *flower* above the *receptacle* or *pedicel*; the “petiole” of a fern *frond* or of the genus *Lemna*.

*stipel* – An appendage of a *leaflet* that is analogous to a *stipule*.

*stipellate* – *Stipule*-like organs *subtending leaflets*.

*stipitate* – 6 ~ *Stalked*, as defined under *stipe*.

*stipular* – 7 ~ In reference to *stipules*.

*stipulate* – With *stipules*.

*stipule* – 7 ~ An appendage or *bract*-like *foliar organ* situated at either side of a *leaf axil*.

*stipuliform* – Like a *stipule*.

*stolon* – Horizontal or *prostrate stems*, usually running above the ground and often rooting at the *nodes*.

*stoloniferous* – 1 ~ Bearing *stolons*.

*stomatal* – In reference to the *stomates*, minute orifices in a *leaf epidermis*, through which gaseous exchange occurs.

*stomium* – A furrow or groove along a *theca* where *dehiscence* or the rupturing of *pollen* takes place (pl. stomia).

*stone* – A single *seed* enclosed by a hard *endocarp*.

*stramineous* – Tan or straw-colored.

*striate* – Beset with fine, longitudinal lines or grooves.

*strigillose* – Minutely *strigose*.

*strigose* – 6 ~ *Pubescent* with *appressed* hairs.

*strigulose* – Minutely *strigose*.

*strobile* – An *inflorescence*, often *indurated* or *woody* and characterized by a series of *imbricated scales*; a *cone*.

*strobilus* – 8 ~ A *strobile*.

*strumose* – A cushion-like swelling, such as the *bulbous*, expanded base of some hairs of the genus *Helianthus*.

*style* – **10, 11** ~ A usually slender *stalk* connecting the *stigma* with an *ovary*.  
*stylopodium* – An expansion of the *base* of the *style*.  
*sub-* – Prefix meaning nearly, almost, or less than.  
*suberose* – With a corky texture.  
*submersed* – Below the surface of the water.  
*subtend* – In reference to any structure situated at the base of another structure.  
*subterranean* – Below the surface of the ground.  
*subulate* – Awl-shaped.  
*subulus* – A small point or short *bristle*.  
*succulent* – Very *fleshy* and juicy.  
*suckers* – *Vegetative shoots* from a proliferating *root* system.  
*suffruticose* – Nearly or slightly woody.  
*sulcate* – Grooved or furrowed lengthwise.  
*summit* – At the very top or at the *distal* end.  
*superior* – **10, 11** ~ In reference to an organ that stands above or appears over or higher than another similar organ; in reference to an *ovary* that is free from the *perianth*.  
*supra-axillary* – **9** ~ Borne above an *axil*.  
*suture* – A seam or union between partitions; a line of *dehiscence* as in a *follicle* or *capsule*.  
*symbiotic* – A relationship between two organisms in which at least one is beneficial to the other, but neither suffers from the relationship.  
*symmetrical* – Regular as to the number of its parts and their shape.  
*sympatric* – Occupying the same region.  
*sympetalous* – **11** ~ With the *petals* united, at least at the *base*.  
*sympodial* – A *determinate inflorescence* that simulates an *indeterminate inflorescence*, as if a *scorpioid cyme* were straight rather than *circinate*; when an *alternate-leaved* plant's branching pattern mimics an *opposite-leaved* plant, producing forked branching.  
*syncarp* – A multiple *fruit* (usually *fleshy*), typified by the mulberries.

## T

*taproot* – **1** ~ The primary, central, downwardly growing *root*.  
*taxon* – A discrete taxonomic unit (pl. taxa).  
*tendrils* – **7** ~ A slender, often ultimately coiled, *foliar* or *branch*-like organ that clings to a support.  
*tepal* – **12** ~ In reference to a unit of the *perianth* when the *sepals* and *petals* resemble each other.  
*terete* – **3** ~ Circular in cross section.  
*terminal* – Positioned at the *summit*.  
*terminus* – End.  
*ternate* – **2** ~ Three-parted; with three principal divisions or occurring in threes.  
*terrestrial* – Referring to plants that live on land.  
*tetragonal* – Four-angled.  
*tetrahedral* – With four triangular faces.  
*tetraploid* – With two complete sets of chromosomes.  
*thallus* – A unit of green shoot or plant body.  
*theca* – **10** ~ Usually paired, a lobe of an *anther* that possesses two *sporangia* or *locules* (pl. thecae).  
*thorax* – The portion of an insect that bears the wings and legs.  
*thorn* – **7** ~ A reduced, sharply pointed *branch* or modified *leaf*, or remnant of such that originates below the *epidermis*; similar to *spine*.

*throat* – **12** ~ The internal portion of a *tubular corolla*.  
*thrum* – A *heterostylic corolla* with the *style* much shorter than the *stamens*.  
*thyse* – **9** ~ A *cylindrical* or *ovoid*, often compact *panicle*.  
*thyrsiform* – *Thyrs*-like.  
*thyrsoid* – Resembling a *thyrs*.  
*till* – Unsorted drift deposited by glacial ice that consists of varying proportions of clay, silt, sand, cobbles, and/or boulders.  
*tomentose* – **6** ~ Densely pubescent with matted hairs.  
*tomentulose* – Finely tomentose.  
*tomentum* – Closely matted or with tangled hairs.  
*tooth* – A sharp process at the edge of a tissue (pl. teeth).  
*toothed* – With *teeth*.  
*torulose* – *Cylindrical*, abruptly contracted at intervals, typically occurring in *fruits* between the *seeds*.  
*translucent* – Between opaque and transparent, thus allowing some light to get through.  
*transparent* – Nearly uninhibited visibility through a tissue.  
*transverse* – Running or lying across something.  
*tree* – **1** ~ A *woody* plant, usually higher than a *shrub*, and characterized as being unbranched at the *base* and having a strong central leader.  
*tri-* – A prefix meaning three.  
*trichome* – **6** ~ A stiff, often multicellular hair.  
*trident* – With three *segments* or *lobes*, usually having a common origin.  
*tridentate* – Three-toothed.  
*trifid* – Three-cleft.  
*trifoliate* – With three *leaves* per *node*.  
*trifoliolate* – **2** ~ With three *leaflets* per *petiole*.  
*trigonus* – Three-sided.  
*trinomial* – A taxonomic entity with a rank below species.  
*tristigmatic* – Bearing three *stigmas*.  
*truncate* – **5** ~ Ending abruptly, as if cut straight across.  
*tube* – Usually referring to the *connate* parts of either the *calyx* or the *corolla*.  
*tuber* – **1** ~ In reference to any thick, fleshy enlargement of a *rhizome* or *stolon*.  
*tubercle* – **14** ~ A small *tuber*-like, often *indurated process* or protuberance.  
*tuberculate* – **6** ~ Having *tubercles*.  
*tuberiferous* – Bearing *tubers*.  
*tuberos* – With a *tuber*.  
*tuberous* – Having the character of a *tuber*; *tuber*-like in appearance.  
*tubular* – **12** ~ *Tube*-like.  
*tufted* – *Cespitose*.  
*tumescence* – A *tumid* condition.  
*tumesc* – Swollen or appearing to become so.  
*tumid* – Swollen.  
*turbinate* – Top-shaped; inversely *conical*.  
*turgid* – Swollen or tightly drawn; often in reference to a membrane or covering expanded by pressure from within.  
*tussock* – A *cespitose* growth of densely aggregated *roots* or *rhizomes*.

*twig* – **7** ~ The *shoot* of a *woody* plant that represents the growth of the current season and is characterized basally by the circumferential *terminal bud scar* of the previous year.

## U

*ultimate* – Last; final.

*umbel* – **9** ~ An *inflorescence* in which the *rays* all originate from a common point.

*umbellate* – With *umbels*.

*umbellet* – A secondary *umbel*.

*umbelliform* – Resembling an *umbel*.

*umbilicate* – Indented or depressed near the center.

*umbo* – A swollen expression on an otherwise flat surface.

*uncinate* – **6** ~ Hooked or bent at the tip.

*undivided* – **2** ~ Without *leaflets* or significant *lobes*.

*undulate* – With a *sinuate* or wavy, up and down surface or margin.

*unisexual* – Of one sex, either *staminate* or *pistillate*.

*united* – **10** ~ Connected, generally in reference to the margins of neighboring *perianth* parts.

*urceolate* – **12** ~ Urn-shaped.

*utricle* – A bladder-like, usually *indehiscent*, 1-seeded fruit.

## V

*valvate* – **7** ~ Opening by *valves*; meeting at the edges but without overlapping.

*valve* – One of the *segments* into which a *capsule* *dehisces*, previously having been held together by union along a *suture*.

*variety* – An infraspecific taxon with a range or habitat relatively distinct from other taxa within a species.

*vascular* – In reference to *veins* or conducting vessels.

*vascular bundle* – **7** ~ A strand or unit of conducting vessels, usually including xylem cells on the inside, phloem on the outside.

*vegetative* – In reference to plant parts that are not involved in *sexual* reproduction.

*vein* – A thread of fibro-*vascular* tissue in a *leaf* or other organ; compare with *nerve*.

*veinlet* – A small, secondary *vein*.

*velutinous* – **6** ~ *Pubescent* with velvety hairs.

*venation* – The arrangement or nature of the *veins*.

*ventral* – In reference to the inner or *adaxial* face of an organ; opposite of *dorsal*.

*ventricose* – Inflated, swollen, or distended.

*vermiculate* – Appearing wormy.

*vermiform* – Worm-shaped.

*versatile* – **14** ~ Attached at or near the middle, such as some *anthers*, and turning freely on its support, the *filament*.

*verticil* – **9** ~ A *whorl*, particularly of *flowers* in the *axils* in the Lamiaceae.

*verticillate* – Having *verticils*.

*vespicochory* – Seed dispersal by vespid wasps; see the genus *Trillium*.

*vestigial* – Rudimentary.

*villous* – **6** ~ With long, straight, soft hairs.

*vine* – A plant that climbs or sprawls by means of twining or *tendrils*; a plant that trails or creeps extensively along the ground.

*vinaceous* – Wine-colored.

*virgate* – Slenderly straight and upright; wand-shaped.

*viscid* – *Glutinous*, sticky, *glandular*.

*viscidium* – The sticky pad-like structure in orchids that is a part of a *pollinium* and facilitates transfer to an insect; see also *rostellum*.

*vivipary* – Germinating while still on the plant, as in certain *bulbs* and transformations of *floral* tissues.

## W

*warty* – Coarsely *papillose*.

*water sprout* – *Sucker*-like, fast-growing *shoot* from the base of a *tree* or latent *buds* on older *branches*.

*whorled* – **2** ~ An arrangement of three or more organs at a single *node*.

*wing* – **11** ~ One of the two lateral *petals* of a *papilionaceous* flower.

*winged* – **7** ~ In general, bearing any thin, expanded portion of an organ; sometimes referring to the well-developed, exaggerated *decurrence* of a *leaf base*.

*wiry* – Said of a *stem* that is slender but quite stiff.

*woody* – In reference to plants that produce *lignin* each year.

*woolly* – With long, soft, matted or loosely tangled hairs.

## X

*xenogamy* – Cross-pollination.

## Z

*zygomorphic* – **10** ~ In reference to a *calyx* or *corolla* that is *bilaterally symmetrical*, capable of being *divided* into two equal halves along one plane only.